Note 4: Severe Wind Events Correlate with the Iasoberg Model Supporting the Argument for the Existence of the Allais Effect

Ed Oberg

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ABSTRACT

The aim of this study was to investigate whether any links exist between the hypothetical Iasoberg Model and severe meteorological phenomena, namely severe wind events. Investigating the relationship between severe wind events in the USA and the Iasoberg Model led to findings that support the structure/geometry of the Iasoberg Model and contribute to the evidence supporting the existence of the Allais Effect. The Iasoberg Model locates the Allais Effect within, on and near the Earth and the findings of this work imply that the Allais Effect exists, and, in the form of an ever present physical reality. The findings of this study in conjunction with previous experimental observations also provide evidence that validates the predicted dynamic elements of the Iasoberg Model. This work presents the Iasoberg Model as new approach that should be taken into consideration when investigating any aspect of the Allais Effect.

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1 Introduction

The aim of Note 4 is to present the findings of work that supports the structure of the hypothetical Iasoberg Model (IM)[i] which may contribute to the verification of the Allais Effect[ii] (AE). The structure of the Iasoberg Model is described in self published Note 2 - *Location of the Allais Effect on the Earth's Surface: A Hypothetical Field Model* (Oberg 2007, www.iasoberg.com).

Amador (Update 2007) *Review on possible Gravitational Anomalies*[iii] describes the Allais Effect and the work conducted in this field from 1954 to 2005, which includes a review of the work on torsion pendulum experiments (Saxl and Allen[iv] 1971). The review also refers to the Iasoberg Model as an interesting approach to explain the AE in terms of quasi-local physics. Amador *et.al.* (Updated 2007) concluded that there was no consensus on the existence of the AE and its cause(s). After a thorough search of publications regarding the AE, the only comprehensive model found describing the AE's location, motion and/or geometry was the hypothetical Iasoberg Model described in Note 2 (Oberg 2007).

In an attempt to identify studies which linked meteorological phenomena and the Allais Effect, only one was found, indicating that previous analysis of data has not been considered in this way. That study (Note 2 Oberg 2007), investigated the links between large hail events in the USA over a 50 year period and the correlation of those events with the predicted locations of the Iasobergs on the Earth's surface. Due to the inconclusive results found when attempting to correlate these large hail events with the locations predicted using the IM, further work investigating other severe meteorological phenomena using the same protocol as the hail study was considered.

The rationale for investigating links with the AE and severe meteorological phenomena is based on the understanding that 1) the AE forces are very small and 2) the model proposes that these forces manifest on and near the Earth's surface. Hence, it's reasonable to assume that the atmosphere should be a most responsive medium to such forces and thus useful for observing events resulting from the AE influence (refer Section 3 in Note 2 Oberg 2007).

This study, which examines the relationship between the IM and severe wind events led to a number of previously unobserved links and correlations, which are presented and discussed in this paper. Through a process of discovery not only were links observed between the IM and severe wind events, but additional findings supported the structure of the IM as predicted.

The evidence supporting of the Iasoberg Model is based on the observations of an unusual (pattern/occurrence) of severe wind events. These observations were examined in light of the aim, notwithstanding the current controversy over the existence and cause of the AE and its relation to the general laws of gravitation. There are a number of implications arising from this work, but foremost is the understanding that the AE is an ever present influence within, on and near the Earth.

2 Method

Meteorological data for this study came from the USA's National Oceanographic and Atmospheric Administration (NOAA) Severe Prediction Center Reports (http://www.spc.noaa.gov). Data from this source provide a readily accessible comprehensive continuous set of meteorological data. Due to the inconclusive results of the large hail study reported in Note 2 (Oberg 2007), further work investigating other severe meteorological phenomena using the same protocol as the hail study was considered. Of the severe meteorological data reported by the NOAA, severe wind events were selected for investigation because they occurred far more frequently than tornadoes, the other meteorological severe events reported on a daily basis by the NOAA. The NOAA data were used because of their accessibility, accuracy, precision and the large number of events that could typically be recorded within a 24-hour period.

Correlations and links between severe wind event data and the locations of the IM were to be investigated by uploading data into a MapInfo mapping software workspace file for each day of the selected period. The IM algorithm (IMA - a MS QBasic program) would then generate the data for the location and geometry for 6 Iasobergs[v]. The data from the NOAA website was accessed and prepared for uploading into the mapping software package for severe wind events. It was intended to graph the location of the 6 Iasobergs in relation to severe wind events for each day in August 2008, and then analyse that data for any correlations/ patterns for each of the 31 days. The calendar month August 2008 was selected for the study because it had 31 days and it contained a complete lunar cycle.

To arrive at the final graphic presentation where the wind data was displayed on top of the locations of the Iasobergs, the data was prepared in the following manner. Firstly, the IMA calculated the points on the Earth's surface that described the shape and location for 6 Iasobergs as lines on the Earth's surface (4 barycentric focused Iasobergs and 2 Earth centric focused Iasobergs) for a particular instant using the input of time in the form of YYYYMMDD HHMM Universal Time (UT). The IMA then wrote that data (UT, longitude, latitude and a label) for these points to a text file.

Secondly, the data for the daily NOAA severe wind events (refer Fig 1 in **Appendix A** typical NOAA graphic), which included longitude, latitude and UT of the event, were downloaded from the NOAA site for a particular day. The longitudes of the events were adjusted[vi] for their location with respect to the Iasobergs at 2400UT (the mid point of the daily observations) using following algorithm:

Generic Form of the Algorithm for LonAdj = LonEvent - (2400 - NOAA xxxxUT of Event)*15 deg/hr.

These wind events were adjusted (to within -180 to +180 degrees) in an Excel spreadsheet using a mod ± 180 formula (refer Table 1 in **Appendix B** - typical NOAA severe wind event data) which was then appropriately identified and saved as an Excel file in its respective directory for that particular day.

Finally, the locations of the Iasobergs at 2400UT and longitude adjusted severe wind events (2400UT) for a particular day were uploaded into the mapping program and plotted on a 10x10 degree Mercator projected map of the world. Layering the two sets of data graphically via the mapping layer function facilitated the comparison of the two sets of data. The mapping layer displaying the two sets of data was visually assessed then saved as a JPG file (refer Fig 2 in **Appendix C**) along with the mapping software workspace file for that particular day.

The observation of an unusual occurrence of 3 clusters of severe wind events (25) which occurred near Chicago, Illinois USA on 2008080405 led to temporarily suspending the work processing daily data in order to investigate this unusual occurrence. It is these severe wind events on the 5th of August 2008, and their correlation with the Iasoberg Model that is discussed in this paper.

Initial investigation into the 3 cluster of wind events began with a comparison of the adjusted Saxl and Allen trace (1 hr per 15 degrees) of the torsional pendulum periods on 19700321 at ~ 1600UT and the pattern of the 3-cluster occurrence. It was clear that the temporal '**M**' signature of the periods strongly correlated with the 3-cluster pattern. Further, when the locations of the 3 clusters were compared with the location of the Solar Earth Centric Iasoberg (SECI), it was observed that the mid cluster coincided with that Iasoberg (refer Fig A in Fig 3 in **Appendix D**).

It was at this point in the process that a 3 band Iasoberg structure/geometry was arbitrarily determined (as opposed to a single line on the Earth's surface) as an exploratory interpretation of the Saxl and Allen pendulum data and the pattern of the 3-cluster occurrence (refer Fig B in Fig 3 in **Appendix D**). Modifying the IMA to generate the 3 band structure/geometry for each of the 6 Iasobergs (refer Fig 4 in **Appendix E** and Fig 5 in **Appendix F**) was carried out, then the IMA was applied to the data for the severe wind on 2008080405 again. Using the modified IMA, the initial work of uploading the IMA generated data and NOAA severe wind event report data into a mapping program workspace file for each day of August 2008 was recommenced and completed.

The need to view the severe wind events and the SECI in more detail led to further changes to the IMA and the scale of the mapping software graphic displays. The program code in the IMA for the calculation for the Iasoberg longitude points on the Earth's surface was reduced from 1 degree iterations to ¼ degree to provide a more detailed definition of the location and boundaries of the Iasobergs. To compliment the detailed IMA output, the graphic output of the mapping software was enhanced by scaling the layouts displaying the individual Iasobergs to be slightly in excess of the width of a 3 band Iasoberg.

3 Discussion and Results

3.1 Results and Discussion

The findings of this work provide evidence that strongly supports the existence of the Allias Effect in the form of an ever present physical reality. The field structure of the hypothetical Iasoberg Model is supported by three significant findings identified during this study in conjunction with previously recorded experimental observations, making it the most comprehensive model to date that can be applied to the AE in all situations. The findings of this study also support the IM as a model able to locate the AE on the Earth's surface as well as contributing to the existing evidence for verification of the Allais Effect's existence.

While considering the results of this work, the following assumptions should be taken into account:

- The weather system that precipitated the severe wind events is meteorologically 'homogenous', i.e. capable of generating a severe wind event at any time and at any location within its boundaries while it passed over the region in question.
- The topography of northern Illinois is flat, which should not enhance nor hinder the causation of a wind event; and
- The hypothetical Iasoberg model was developed with the intention to facilitate an explanation of the Allais Effect.

A further item to note in relation to IM and the IMA is the method in which the data were generated for the locations of the Iasobergs on the Earth's surface. The IMA generates the data for the locations of the Iasoberg points from the input of only 1 variable, time, in the form of YYYYMMDD HHMMUT. The astronomical algorithms that form the basis of the geometric calculations used in this study are accurate to within 1/2 a degree using this input.

The results from this investigation, which illustrate the patterns and relationships between the IM and the location of the 3 clusters of severe wind events, are presented graphically and diagrammatically. All trends, patterns and relationships in this study (based on the visual interpretation of the graphs, maps and diagrams presented) are discussed in light of existing evidence regarding the AE and current accepted gravitational theories. At this stage, due to unresolved complexities encountered during attempts to statistically analyse data generated from the 20080805 severe wind events, there are no statistical outcomes or probabilities available to be reported in this work.

3.1.1 Correlation of 20080805 Severe Wind Events and Saxl and Allen Results

One of the key findings is based on the correlation of data from two distinctly different phenomena over a period of ~ one hour in each case. These phenomena were the 3 clusters of severe wind events and the '**M**' signature of the period of the Saxl and Allen torsion pendulum experiments (21 March 1970 Saxl and Allen 1970). The data for the longitude adjusted locations of the 3 clusters from this study were compared with the temporal signature ('**M**' shaped graph) describing the period of a torsion pendulum used in Saxl and Allen's (1970) experiments. The wind cluster data were found to correlate with the peaks and trough of data recorded in the torsion pendulum experiments (refer Fig A in Fig 3 in **Appendix D**). In considering these correlative observations, it is important to note that they resulted from two different approaches, using two different methods to gather data for two very different phenomena.

The logic of the rationales for both approaches was based on the premise that the AE could be observed in specific circumstances. The rationale for using the IM to study meteorological events is that the atmosphere is a medium that should respond to the AE. Therefore it was hypothesised that the presence of the AE would result in meteorological events that are coincident with the location of particular Iasobergs on the Earth's surface (refer Section 3 in Note 2 Oberg 2007). Saxl and Allen's pendulum experiments were conducted to essentially repeat Allais' work and corroborate his previous findings, and provide further evidence for the existence of the AE.

The strong correlation of the patterns observed when these two independent data sets were compared is significant for the following reasons:

- the data sets were obtained by two very different approaches seeking to substantiate the AE,
- the patterns reflect observations of two very different phenomena; and
- there is a time difference of 37 years between the data sets.

The occurrence of this correlation warrants further investigation, as well as introducing the prospect that investigating phenomena other than solar eclipses may lead to an explanation for the AE.

Another aspect of this correlation is the 'duration' of both the '**M**' signature for the pendulum periods and the wind events that comprise the 3 clusters. The time in which both patterns were observed is only a little more than 1 hour (refer Fig A in Fig 3 in **Appendix D**). Other published observations of the AE's influence are similarly of a very short duration made during studies of solar eclipses. It is important to note that the short period for these observations does not deter from the significance of their correlation.

Saxl and Allen (1970) have indicated that the '**M**' signature was observed on many occasions during the 17 years that they conducted their experiments. This periodic but consistent observation of the '**M**' signature, if it does reflect the AE's influence, adds support to the understanding that the AE could be an ever present phenomenon whose intensity varies depending on the configuration of the Earth, Moon, Sun and centre of the galaxy. Only one occurrence of severe wind clusters has been analysed in detail at this stage, although initial processing of the daily wind event data for the 31 days of August 2008 has been completed. Further detailed analysis of the remaining August 2008 data may provide more correlations between severe wind events and the Iasoberg Model, thus providing further evidence to substantiate the IM and contribute to evidence that supports the existence of the AE.

3.1.2 Intersection of the SECI and the Mid Cluster of the Wind Events

The second key finding was the observation of the intersection the SECI and the terrestrial location of the mid-cluster of adjusted severe wind events, when plotted on the Earth's surface at 20080805 0100UT. The SECI is an element of the IM initially generated as a line by the IMA for a specific instant. The SECI defines the location of the AE on the Earth's surface for the distorted Solar gravitational potentials which are focused at the centre of the Earth. The intersection of the SECI as described above, demonstrated that the IM, which locates the AE on the Earth's surface was coincident with the location of the 3 cluster occurrence.

In order to reflect the geometry/locations of the '**M**' signature and the 3 clusters, the coding of the IMA was modified to generate exploratory 3 band Iasobergs as opposed to the single line Iasobergs. This exploratory developmental modification was then applied to the 20080805 severe wind data in this study to assess the locations of the 3 band Iasobergs in relation to the distribution of the locations of the severe wind events. When the 20080805 NOAA wind event and the modified IMA data were mapped in detail, it was apparent that all of the severe wind events fell within the exploratory determined bounds of the 3 bands of the SECI as summarised below and shown in Fig 6 in **Appendix G**:

- Band 1   1 to 3.5 degrees   Contained 7 events
- Space   3.5 to 5 degrees   Contained 0 events
- Mid Band   5 to 9.5 degrees   Contained 11 events
- Space   9.5 to 11 degrees   Contained 0 events
- Band 2   11 to 14.5 degrees   Contained 7 events.

It could be inferred from the distribution of the wind events within the bounds of the SECI, that, should there be any 'AE related influences' associated with the SECI; those 'influences' may have precipitated the observed events and determined their distribution. Further, it can be readily seen in Fig 6 in **Appendix G** that the distribution of the 3 clusters across the exploratory 3 band Iasoberg demonstrates a strong link between the location of the wind events and the SECI.

3.1.3 Correlation of Wind Events and the Orthogonal Gravitational Vectors

The third major finding resulted from an attempt to determine the statistical probability of the distribution of the events within the 3 band SECI, which proved problematic, as previously stated. In attempting to determine the statistical probability of the occurrence of the location of the events within a specific Iasoberg, the 3 exploratory bands of the SECI were defined by the construction of a series of rectangular windows[vii] whose geometry reflected that of the peaks and trough of the '**M**' signature (refer Fig 7 in **Appendix H**). Subsequent to this construction, the following observation was circuitously made and became the third significant result supporting the structure of the IM.

By way of brief background, the IM predicted that the orthogonal gravitational vectors within the envelopes which contained the distorted surfaces of gravitation potential would also be distorted in accordance with conventional field theory (refer Section 2.2 in Note 2 Oberg 2007). It was observed that some of the events in the windows were linearly coincident. Fig 7 in **Appendix H** shows a line that was subjectively drawn linking the wind events at the top of the right hand 3.5-degree box. It became evident that that line was parallel to the topside of the box, but more importantly, the line was clearly perpendicular to the azimuth of the SECI. The construction of 6 additional lines parallel to the first was repeated and enabled 20 remaining events in the boxes (max 4 events per line) to be linked accordingly.

Observing these lines gave rise to the recognition that the azimuth of these parallel lines linking the events would be coincident with the direction of the distorted Solar orthogonal gravitational vectors predicted by the Iasoberg Model. This observation provides a link between an element of the hypothesis, i.e. the gravitational vectors, and the locations of the severe wind events as well as the possibility that ‘influences’ associated with AE may be the cause of these events. These constructed lines (linking the observations) coinciding with the vectors, as predicted in the hypothetical Iasoberg Model, is a significant result of this work, in that it provided additional evidence supporting the structure of the IM.

3.1.4 Review of the IM and Gravitational Theories

The concept of the Iasoberg Model was developed from the data recorded during Allais’ experiments in the 1950s and based on the notion that if the Allais Effect existed, it would be focused at the barycentre of the Earth and Moon system (refer Section 2.4 in Note 2 Oberg 2007). The Iasoberg Model differs from classical gravitational theory in that it is based on the assumption that the Solar and Galactic gravitational fields in some circumstances tend to act on the Earth and Moon as a single system with a component of their gravitational fields acting at the barycentre instead of on the separate mass centres of the Earth and Moon.

Assuming that the force(s) that cause(s) the AE is focused at the barycentre and the centre of the Earth and manifests on the Earth’s surface, a hypothetical model explaining the AE would require a field structure where the potential(s) for such a force(s) intersect the barycentre and the Earth’s centre and the Earth’s surface. The Solar and Galactic gravitational fields meet this requirement as proposed by the hypothetical Iasoberg Model.

Conventional field theory defines the gravitational potentials of these fields (assuming they are isotropic) as concentric spheres with the Sun and centre of the Galaxy at their respective centres. A premise of the IM is that in order to create a significant observable effect on the Earth’s surface these spherical potentials and their associated vectors would need to be distorted. The IM proposes that these concentric spherical potentials are distorted in the region of the barycentre and centre of the Earth and the distortions in these spherical potentials extend to the surface of the Earth. Thus, the gravitational field vectors associated with these distorted potentials would also be distorted accordingly.

It should be noted that the distortions described by the IM that intersect the Earth’s surface are essentially stationary over a short periods of time (refer Section 2.1 in Note 2 Oberg 2007). Hence, matter on and/or near Earth’s surface would pass through the distorted gravitational field vectors (where they are present) due to the rotation of the Earth at a velocity approximately equal to the product of 1600 km/hr x the cosine of the terrestrial latitude of a location on the Earth’s surface. It would be expected that the slightest distortion in the separate and/or aggregated gravitational fields (Solar and Galactic) would tend to have an effect on the atmosphere moving at a relative velocity to these small stationary non homogeneous perturbing forces in the order of 1000 km/hr.

The results of this work support the field structure of the Iasoberg Model in general, as well as some of the more specific elements of the Iasoberg Model predicted in Note 2 (Oberg 2007), such as in the case of the distorted orthogonal gravitational vectors.

3.1.5 Review of the Allias Effect

Amador (Updated 2007) reviewed the Allias Effect as one of the two gravitational anomalies that has attracted the attention of the scientific communities. He concludes that to date, no satisfactory conventional explanation has been generally accepted to explain the Allias Effect, and suggests that new physics may be needed to account for this gravitational anomaly.[viii]

After a thorough search of publications regarding the Allais Effect, the only comprehensive model found describing the AE's location, motion and/or geometry was the hypothetical Iasoberg Model described in *Location of the Allias Effect on the Earth's Surface – Hypothetical Field Model* -Note 2 (Oberg 2007). This was also the only work found that examined meteorological activity and its relationship with the AE and was amongst the most recent work reviewed in trying to explain the Allias Effect. This work investigating the AE using the IM differs from other work in this field in that it is based on the assumption that the AE exists. In Amador's *Review of possible Gravitational Anomalies* (2007 Updated), *Location of the Allias Effect on the Earth's Surface – Hypothetical Field Model* – Note 2 (Oberg 2007), the IM is described by Amador as an interesting theoretical approach to explain the Allias Effect in terms of quasi-local physics.[ix]

Many causes of the Allais Effect that have been postulated, most merely as very general possibilities, based on conventional and non-conventional physics. A more substantial claim, suggesting that the AE is caused by the effect of an increase in the mass of the atmosphere at the time of an eclipse, has been proposed by Van Flandern and Yang (2003) in *Allais gravity and pendulum effects during solar eclipses explained*. They present a model that provides for an increase in the mass of air over and near the umbra of the eclipse which alters the gravitational forces within and near that region. Another aspect of their claim is that the Allais Effect is caused by rapid air mass movement for the bulk of the atmosphere above normal cloud levels. They also maintain that this explanation is sufficient for both the magnitude and behaviour of the anomaly.[x] Van Flandern and Yang's model is limited in its ability to comprehensively explain the AE, in that it only applies during solar eclipses and for the region where the moon casts a shadow on the Earth's surface. While changes in the atmosphere may contribute to the Allais Effect, the Van Flandern and Yang explanatory model is not sufficient to explain the Allais Effect.

To date, most of the experimental work conducted and data gathered to verify the AE, has been carried out during solar eclipses. Observers are now measuring ambient conditions where experimental apparatus are set up to observe the AE, which include the atmospheric pressure, temperature and the Earth's magnetic field, in order to eliminate these phenomena as possible causes of the AE. Tang *et. al.* (2003) reported on their environmental observations of the Zambia total solar eclipse of June 2001 and Australia total solar eclipse of December 2002. They recorded significant gravitational anomalies on both occasions, but also recorded minimal changes in the atmospheric pressure. Tang *et. al.* (2003) concluded that the data recorded during the solar eclipses provided strong evidence that some gravitational anomalies simply could not be inferred as a result of changes to the atmospheric pressure.[xi]

Kuusela *et.al.* (2006) conducted gravitation experiments during a total solar eclipse, in Turkey 29 March 2006.[xii] Magnetic gravimeters used as sensitive tiltmeters were used during the experiment to detect anomalies. They also recorded very accurate measurements of the environmental conditions at sites of the observations, which included temperature and ambient pressure. They report that general ambient pressure was virtually constant within the resolution limit of 0.2 mbar, and that the changes in temperature were less than 0.25 C. The observation of negligible changes to the environmental conditions negated any influence of the known ambient conditions on the anomaly which they observed during the eclipse. Their observation of an anomaly provided more evidence to support the existence of the AE and was the last experimental report reviewed (Amador 2007 Updated).[xiii]

A potential implication of the verification of the AE is that **the influence of the AE is ever present within, on and near the Earth**, not just at 'extremely close' alignments of the Sun, Moon and Earth, as in solar eclipses. Hence, the region(s) and intensity of the AE's influence would vary depending on the configuration of the Sun, Moon, Earth and the centre of the galaxy. The findings of Saxl and Allen foreshadowed this understanding which subsequently arose from this work – author's comment in brackets **[bold]** and emphasis in **bold**:

> *The irregularities occurring before the start of the eclipse might be considered accidental, except that data taken two weeks later at the same hour of the day (dashed curve) show corresponding humps* **['M' signature]** *– indication, by the way, that the observations are reproducible. These maxima and minima* ***may indicate a kind of gravitation fine structure*** *which is reproducible* ***even when the positions of the sun and moon relative to the earth are quite different****. This apparent wavelike structure has been observed over the course of many years* **[17]** *at our Harvard laboratory. It cannot be predicted on the basis of classical gravitational theory nor has it been observed in the quasistationary experiments underlying this theory (e.g., spring-operated gravimeters, seismo-graphs, and interferometer devices).*[xiv]

The review of the current literature indicates that the anomaly, as observed on various occasions, has not been defined by an effective working model nor is there an explanation for its cause(s). The results of this study are consistent with some of the results and observations made by other practitioners, and it should be emphasized that in no instances are the results of this work inconsistent with the observations and conclusions of literature supporting the existence of the AE.

Unlike previous models attempting to explain the AE, including the Van Flandern and Yang model (2003), the Iasoberg Model presents a comprehensive model of the AE, where the AE could exist constantly, albeit in varying intensity and size for the regions where it intersects the Earth surface. Because of the inconsistency of the results from the studies reviewed on the Allais Effect, Amador (Updated 2007) concludes that there is no consensus for the existence of the AE or its explanation.[xv]

3.2 Future Work

3.2.1 Collection and Processing Additional Data

Meteorological data analysed using the IM is limited. More random data sets need to be analysed in order to test the integrity and repeatability of the IM's proposed structure and geometry. As the IM was modified in this study, which produced more defined patterns compared to the previous hail study in Note 2 (Oberg 2007), future studies may require further refinement of the IM and subsequently the process though which data is adjusted, in order to achieve more accurate and useful results.

Currently, data needs to be processed on an individual basis using a lengthy manual process to adjust it prior to comparing the output of the IMA and the data. Increasing the efficiency of this process through specialised programs or specific software, or a larger body of researchers, would allow more data to be processed and analysed. Thus, allowing patterns and trends between severe weather events and their relationship with the Iasobergs to be more expediently investigated.

3.2.2 Further Development of the IMA

An upgraded IMA Version 2 could potentially have a real time function which would enable an instantaneous global view of the interaction of the Iasobergs and most terrestrial meteorological events. IMA Version 2's functionality would be enhanced by integrating technology, including using more advanced astronomical, automated mapping and graphic software. The upgrade of the IMA to IMA Version 2 would be based on the current Iasoberg Model.

3.2.3 Eclipse Studies and Data Collection

The data from eclipse events is comprehensive and accurate; however, it is usually taken just below the point of the greatest extent of the eclipse on the Earth's surface, implying that the effect is only on or near that point. It should be noted that the first observation of the effect by Allais in 1954 was at Paris, France 1000+ km away from the path of the eclipse on the Earth's surface. Locating the experimental apparatus at the point of eclipse on the Earth's surface may not be the most useful method to observe the scope and intensity of the AE.

The IM provides another approach to investigate the AE during an eclipse. The output of the IMA would provide locations where the AE would intersect with the Earth's surface for particular instances during an eclipse. From that data a range of locations could be identified for setting up a strategic network of apparatus of various types to monitor those locations during the eclipse for any gravitational variations. The output from the IM would also allow the field conditions of the selected locations to be assessed prior to the eclipse to ascertain if there might be any undue environmental conditions that may affect the results, e.g. regular/continuous seismic noise.

3.2.4 Application of Knowledge

Should this study be replicated and/or further work carried out resulting in the Iasoberg Model being proven and the AE being verified, there are five major areas of work that should be considered to further advance the application of this knowledge. These five major areas of development include but are not limited to:

- technically validating and refining the current Iasoberg Model and upgrading the IMA to make it user friendly, automated, interoperable with relevant software platforms/packages and available to all interested parties
- using the Iasoberg Model, to assess terrestrial physical phenomena to ascertain if they are influenced by the AE
- investigating the possibility of terrestrial gravitational field irregularities enhancing or diminishing the size and/or intensity of the AE as a result of various interactions between these irregularities and the Iasobergs
- examining various data sets for correlation(s) with the Iasoberg Model with the view to defining any links that exist, and using that knowledge to provide short and long term forecasts for future events where possible and
- undertaking the theoretical work using the Iasoberg Model as reference point to investigate the cause(s) of the AE which may result in revising or extending the general laws of gravitation.

3.3 Conclusion

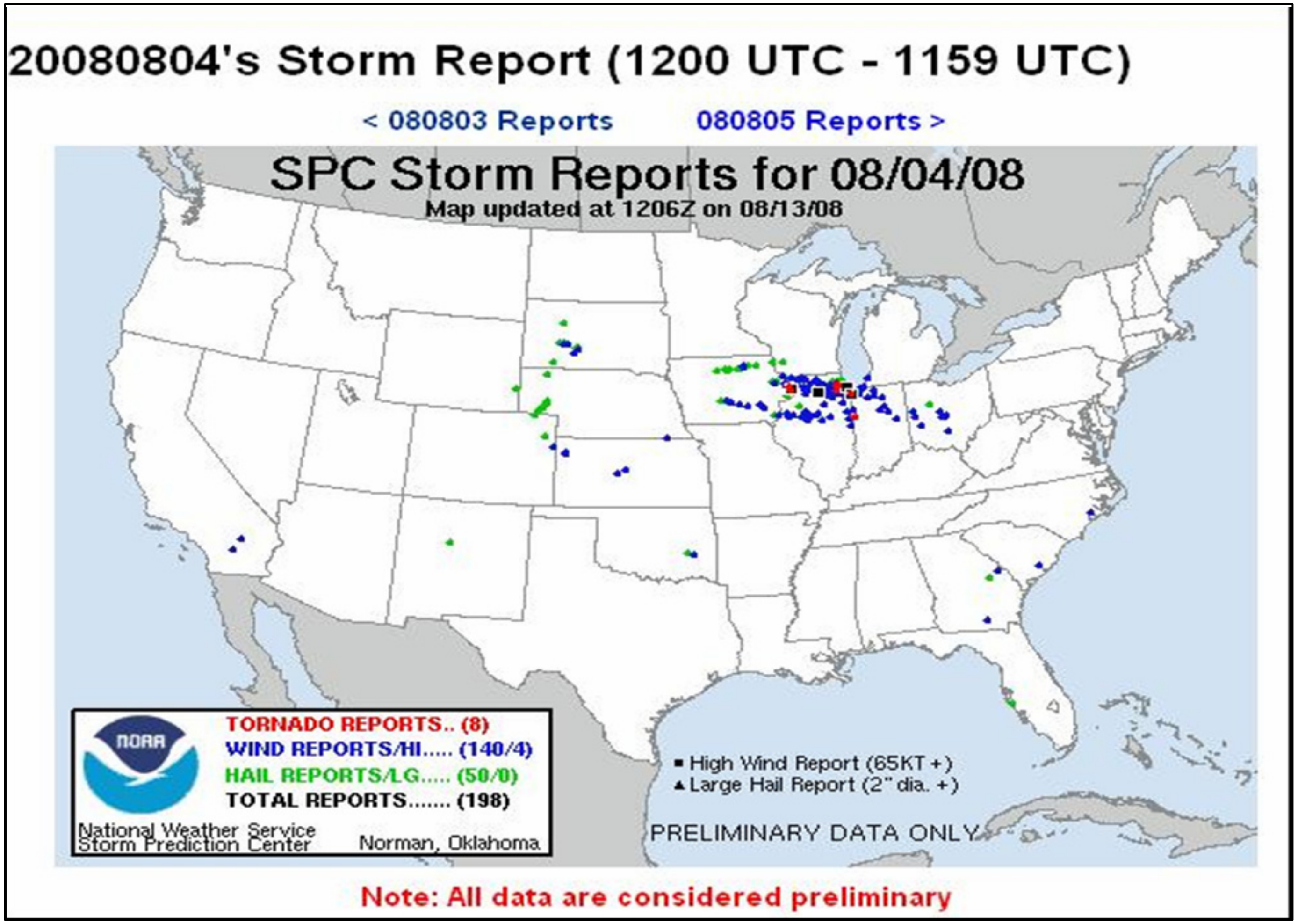
This study has shown that the structure/geometry of Iasoberg Model correlates with various phenomena, some of which are associated the Allais Effect. After evaluating the correlative and coincident evidence from this study, it is evident that the Iasoberg Model is a useful model with the potential to be used as a tool in the further investigation of the Allais Effect.

At this stage, the evidence presented in this paper demonstrates that the Iasoberg Model could be useful in proving the existence of the AE and investigating its cause(s). Further, should the model be applied to data and achieve repeatable results, it will have many practical applications, including the prediction of various types of terrestrial physical activity.

The findings of this work have brought a sound approach with a different focus to the investigation of the AE anomaly. This work presents the Iasoberg Model as a new concept that should be taken into consideration when investigating any aspect of the Allias Effect.

Appendix A: Fig 1 NOAA Graphic of 2008080405 Storm Reports in Continental USA

NOAA Wind Report Dataset at http://www.spc.ncep.noaa.gov/climo/reports/080804_rpts.html
Storm Report Graphics and Data Courtesy of the NOAA National Weather Service Norman OK USA



Appendix B: Table 1 Data for 25 Wind Events from 2008080405 NOAA Report (Typical Severe Wind Report Data Format) and Longitude Adjustment Formula

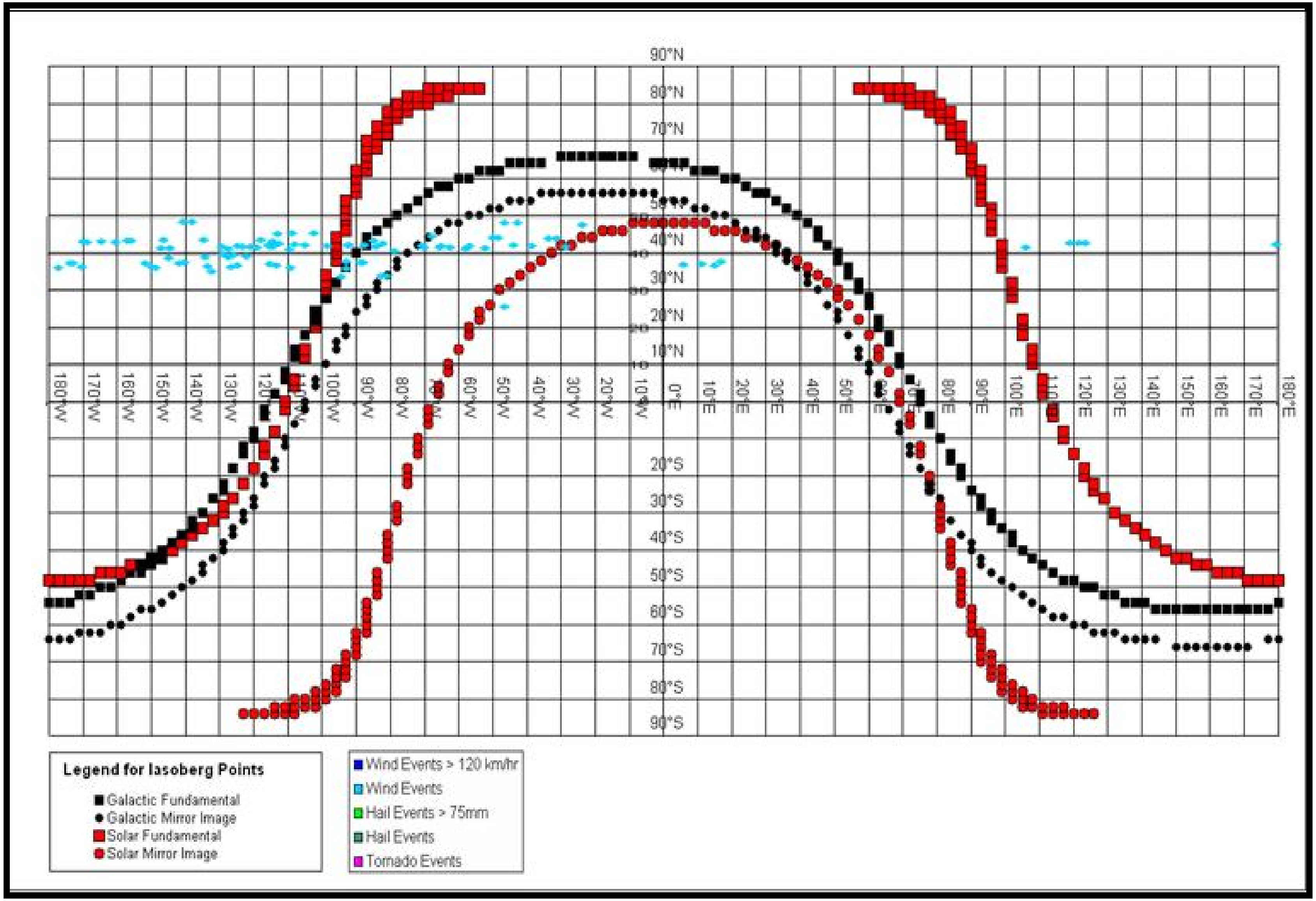
1	Time	Speed	Location	County	State	Lat	Lon	LonAdj	Comments
2	44	UNK	3 N ELBURN	KANE	IL	41.93	-88.47	-92.47	MULTIPLE TEN INCH TREES DOWN NEAR ROUTE 47 AND ROUTE 64. (LOT)
3	45	UNK	JOLIET	WILL	IL	41.53	-88.12	-91.87	TREE BLOWN DOWN ON HOUSE AT DAVID AND RICHARDS ROAD. (LOT)
4	45	70	AURORA	KANE	IL	41.77	-88.29	-92.04	REPORTED AT AURORA HIGH SCHOOL. (LOT)
5	46	UNK	BOLINGBROOK	WILL	IL	41.7	-88.08	-91.58	LARGE TREE DOWN NEAR PLAINFIELD/NAPERVILLE RD. AT 111ST BLOCKING FOUR LANES. (LOT)
6	49	65	BOLINGBROOK	WILL	IL	41.7	-88.08	-90.83	NEAR BOUGHTON ROAD AND WEBER. (LOT)
7	49	UNK	ITASCA	DUPAGE	IL	41.98	-88.02	-90.77	12 INCH TREE DOWN. (LOT)
8	52	UNK	CLARENDON HILLS	DUPAGE	IL	41.8	-87.96	-89.96	TREES AND WIRES DOWN (LOT)
9	100	UNK	FRANKLIN PARK	COOK	IL	41.94	-87.88	-87.88	NUMEROUS TREES DOWN ON MANNHEIM ROAD BETWEEN BELMONT AND ADDISON ROADS. (LOT)
10	104	70	2 W AURORA	KANE	IL	41.77	-88.33	-87.33	MEASURED 70 MPH WIND GUST AT IL RTE. 31 JUST NORTH OF MOOSEHEART. (LOT)
11	104	59	MIDWAY AIRPORT	COOK	IL	41.78	-87.75	-86.75	(LOT)
12	107	UNK	MIDLOTHIAN	COOK	IL	41.63	-87.72	-85.97	HALF DOZEN 18-24 INCH TREES SNAPPED NEAR 147TH AND CICERO. (LOT)
13	110	70	2 NE TINLEY PARK	COOK	IL	41.6	-87.77	-85.27	AT 167TH AND CICERO. (LOT)
14	112	UNK	ROSELLE	DUPAGE	IL	41.98	-88.08	-85.08	TREES DOWN. (LOT)
15	113	UNK	2 SW SOUTH ELGIN	KANE	IL	41.98	-88.33	-85.08	TREES AND POWER LINES DOWN IN FOXCROFT/VALLEY VIEW AREA. (LOT)
16	114	UNK	SHERIDAN	LA SALLE	IL	41.53	-88.69	-85.19	SMALL BRANCHES DOWN. (LOT)
17	115	UNK	NAPERVILLE	DUPAGE	IL	41.76	-88.15	-84.40	20 INCH TREE DOWN. (LOT)
18	115	UNK	BROADVIEW	COOK	IL	41.86	-87.86	-84.11	EIGHT TO TEN INCH TREES DOWN ON 21ST TWO BLOCKS NORTH OF ROOSEVELT. (LOT)
19	119	60	5 NNE MORRIS	GRUNDY	IL	41.44	-88.39	-83.64	(LOT)
20	125	UNK	BOLINGBROOK	WILL	IL	41.7	-88.08	-81.83	ROOF BLOWN OFF OF HOUSE AT BOUGHTON ROAD AND KING RD. (LOT)
21	125	94	4 NNE CHICAGO	COOK	IL	41.86	-87.6	-81.35	MEASURED AT C-MAN BUOY 4 NNE CHICAGO ON LAKE MI (LOT)
22	128	UNK	GRIFFITH	LAKE	IN	41.52	-87.42	-80.42	WIDE SPREAD DAMAGE ACROSS TOWN. POSSIBLE TORNADO. (LOT)
23	131	UNK	ADDISON	DUPAGE	IL	41.93	-88.01	-80.26	ROOF DAMAGE TO UNITS AT TAMARACK APARTMENT COMPLEX. TWO HOMES DAMAGED BY FALLEN TREES. ONE MULTI FAMILY HOUSE ROOF COMPLETELY OFF. (LOT)
24	132	65	CRETE	WILL	IL	41.45	-87.62	-79.62	(LOT)
25	133	80	GRIFFITH	LAKE	IN	41.52	-87.42	-79.17	PEA-SIZE HAIL AND POSSIBLE FUNNEL CLOUD. LOCATION CLINE AND MAIN ST. (LOT)
26	137	UNK	MONEE	WILL	IL	41.42	-87.75	-78.50	SEMI BLOWN OVER NEAR MANHATTAN ROAD. TIME ESTIMATED. (LOT)

H2 fx

```
=IF((G2-(1-(INT(A2/100)+(A2/100-INT(A2/100))*100/60))*15<-180),(G2-(1-(INT(A2/100)+(A2/100-INT(A2/100))*100/60))*15+360),IF((G2-(1-(INT(A2/100)+(A2/100-INT(A2/100))*100/60))*15>180),((G2-(1-(INT(A2/100)+(A2/100-INT(A2/100))*100/60))*15)-360),G2-(1-(INT(A2/100)+(A2/100-INT(A2/100))*100/60))*15))
```

	C	D					
1	Location	County					
2	3 N ELBURN	KANE	IL	41.93	-88.47	-92.47	MULTIPLE TEN INCH TREES DOWN NEAR ROUTE 47 AND ROUTE 64. (LOT)

Appendix C: Fig 2 Typical Pattern of 4 Single Line Barycentric Iasobergs on the Earth's Surface – Format Used for Initial Severe Wind Event Analysis



Appendix D: Fig 3 Development of Exploratory 3 Band Iasobergs

Development of 3 Band Iasoberg from Wind Reports from Central Midwest USA On 2008080405 and Saxl and Allen Pendulum Eclipse Data

Fig A - Preliminary comparison of Iowa, Illinois, Indiana and Kansas (Below 40N Lat) Wind Events (Longitude Adjusted – Blue Dots) for Interval 20080804 2300UT to 20080805 03000UT with Saxl and Allen Pendulum Eclipse Data on 19700321 at ~ 1600UT (trace adjusted to 15 deg/hr). Earth Centric Solar Iasoberg fixed at 20080804 2400UT. 10x10 Grid.

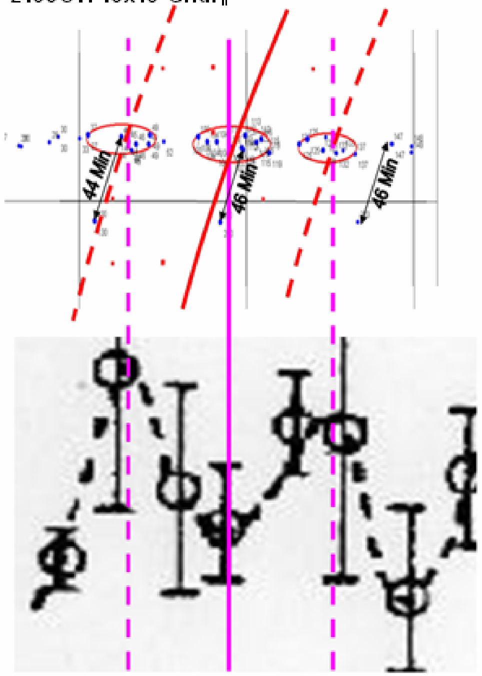
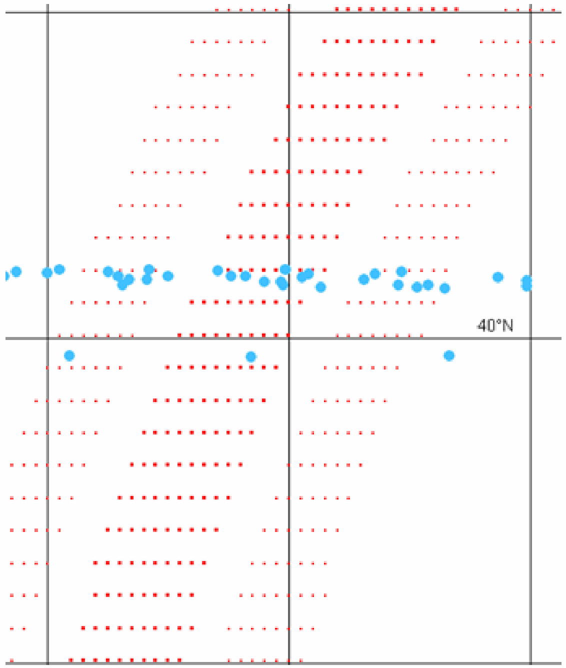
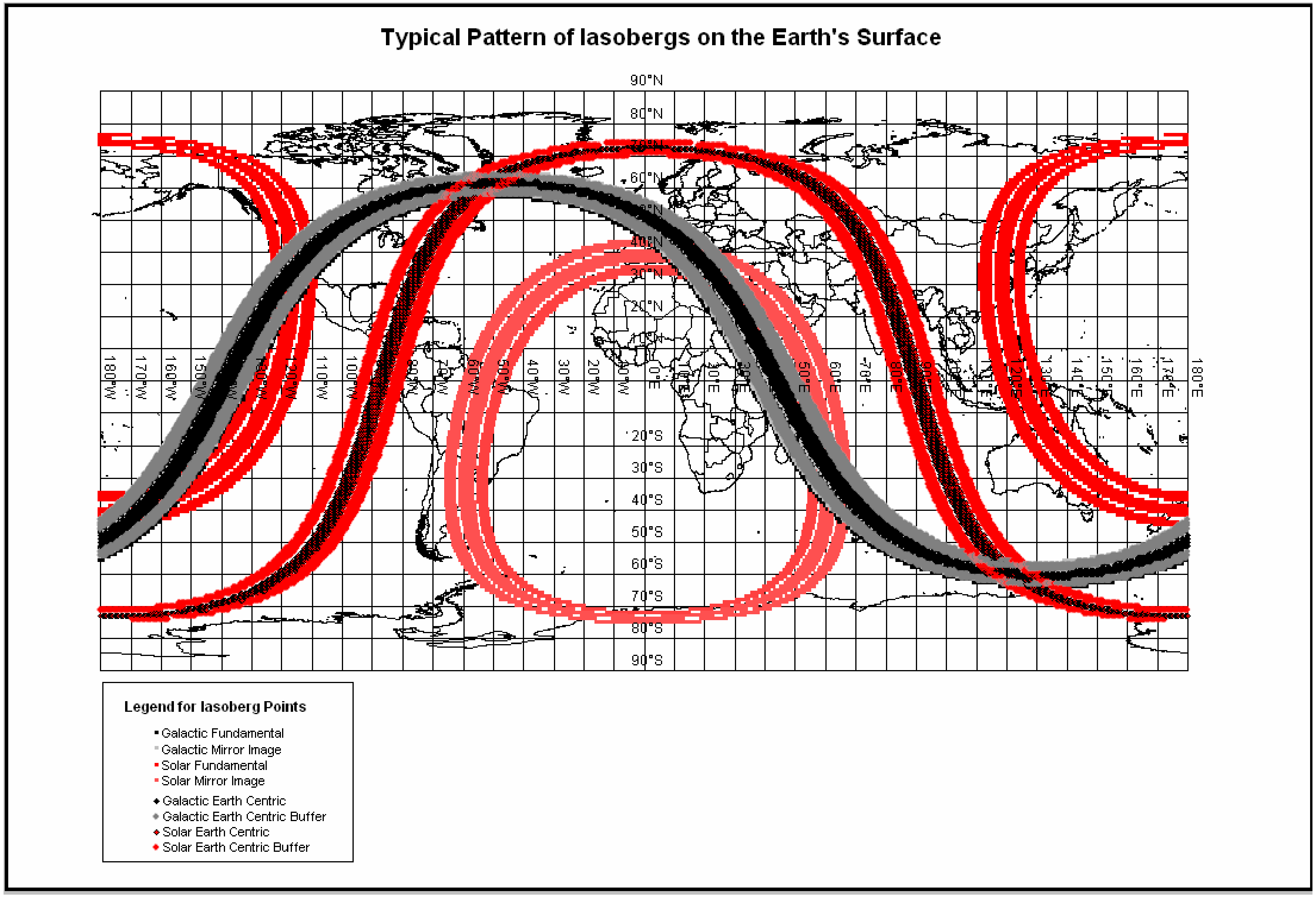


Fig B - 3 Band Solar Earth Centric Iasoberg returned from Iasoberg generating program (revised to reflect Fig 1 observations) and 2008080405 Wind Events. 3 Band Earth Centric Solar Iasoberg fixed at 20080804 2400UT. 10x10 Grid.

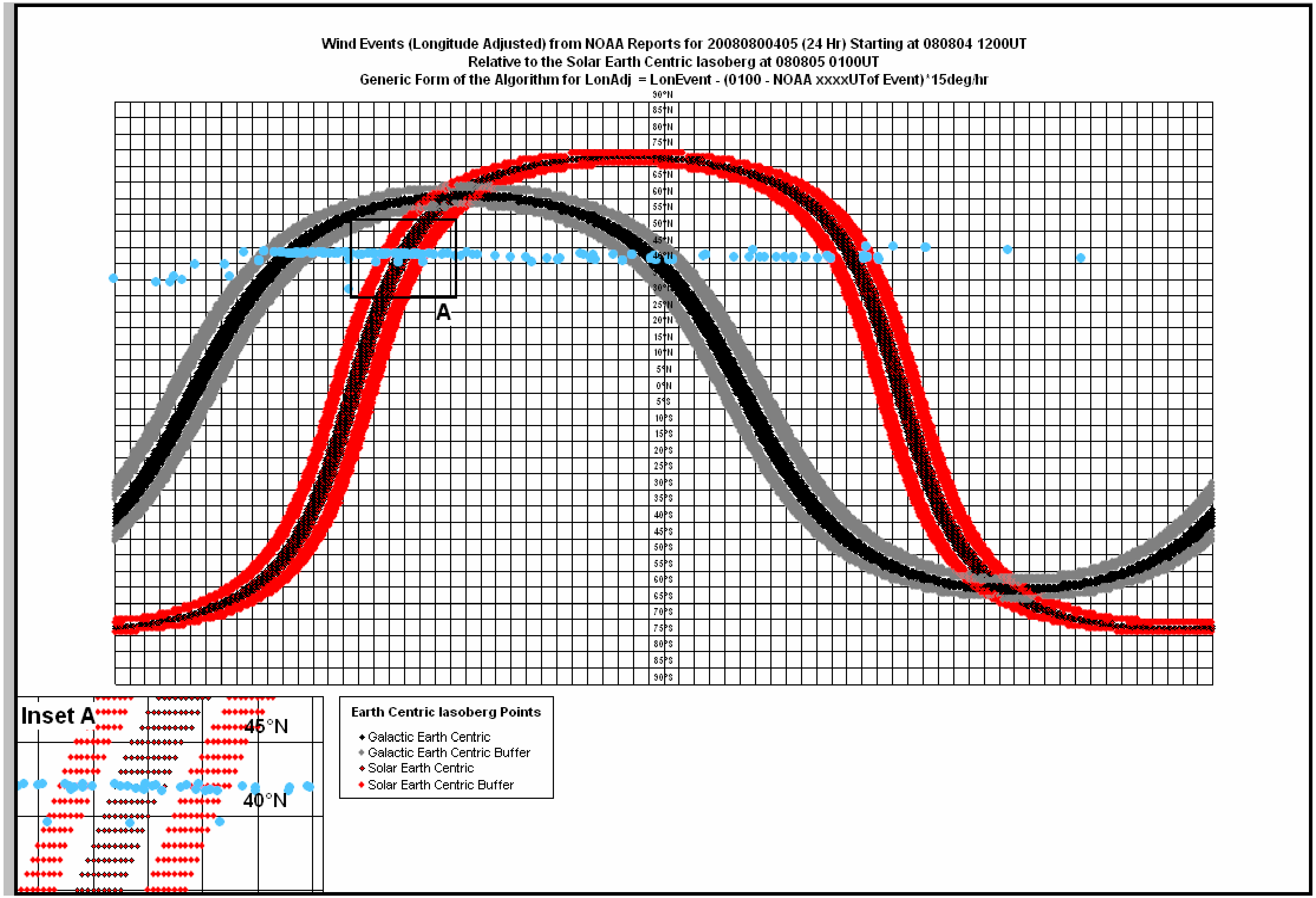


Appendix E: Fig 4 Typical Pattern of 6 x 3 Band Iasobergs on the Earth's Surface

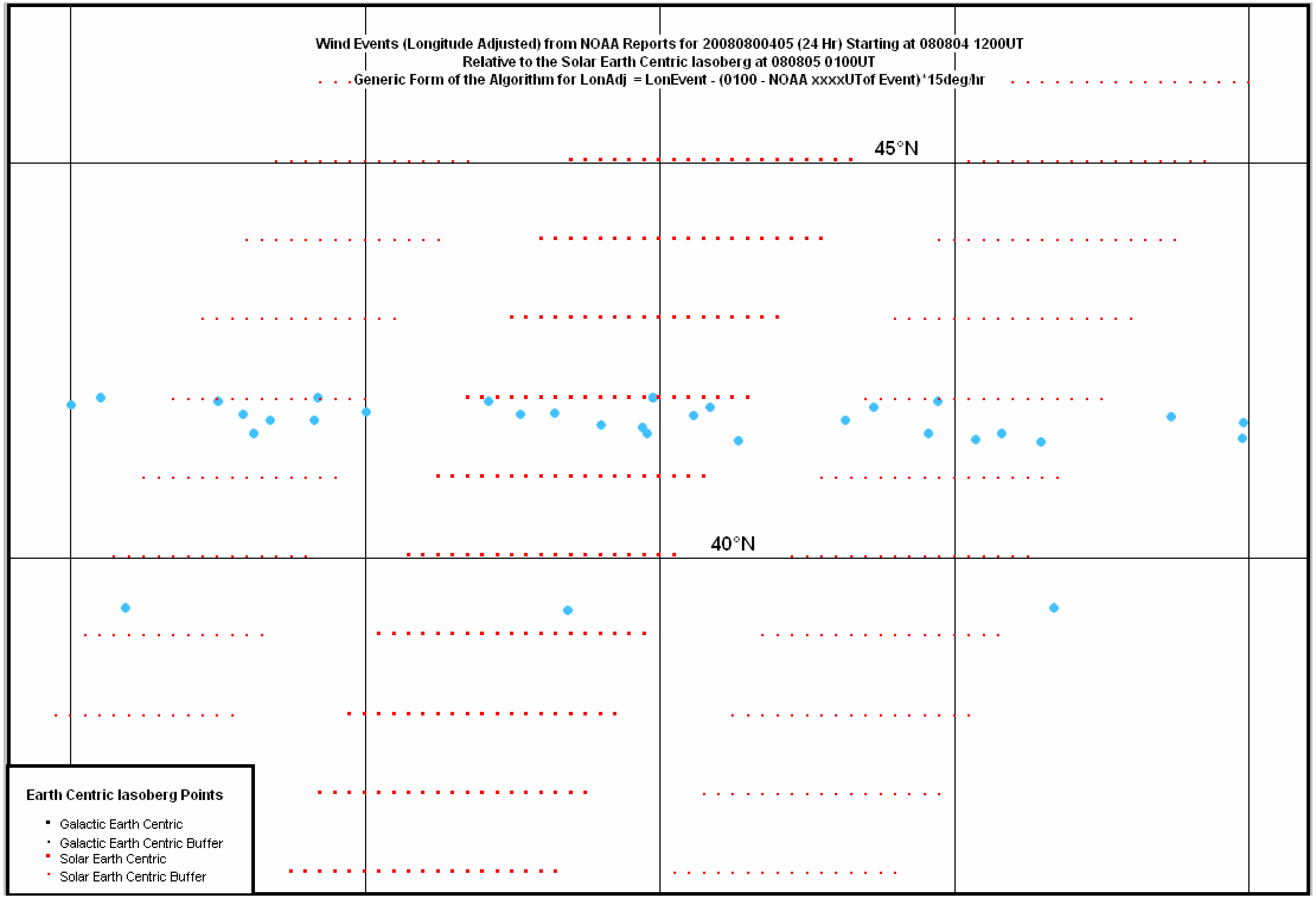
Note: 3 Galactic Iasobergs are Coincident



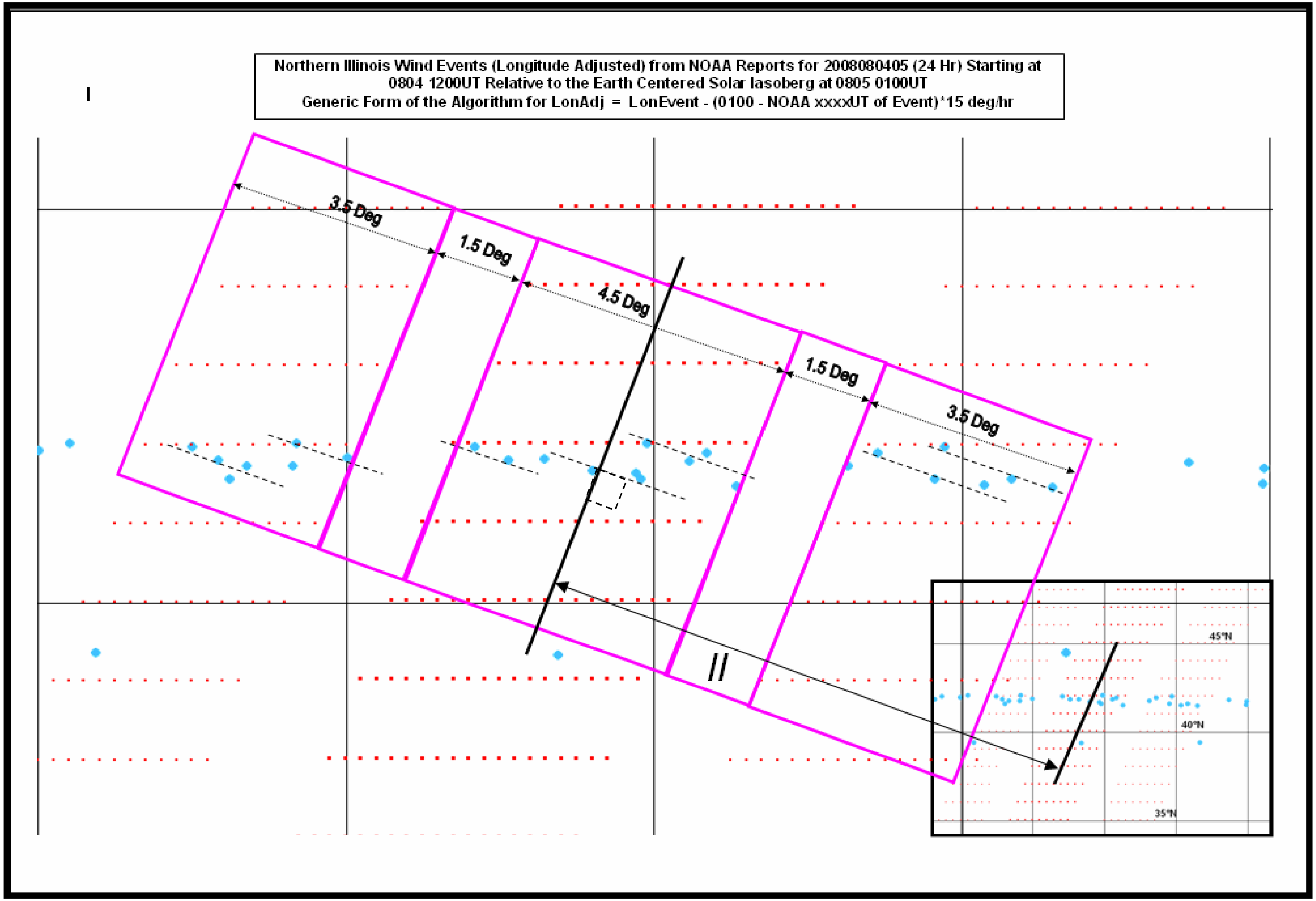
Appendix F: Fig 5 Location of Earth Centric Iasobergs at 20080805 0100UT and NOAA Longitude Adjusted Severe Wind Events for 24 Hr Period 1200 – 1159 UT 2008080405



Appendix G: Fig 6 Enlargement of Inset A in Fig 5



Appendix H: Fig 7 Enlargement of Inset A in Fig 5 with Linearly Linked Wind Events Orthogonal to SECI Azimuth



References and Explanatory Notes

[i] E Oberg, “Location of the Allais’ Effect on the Earth’s Surface: A Hypothetical Field Model” – Note 2, www.iasoberg.com

[ii] It is assumed that the audience for this note is familiar with the Allais Effect and most of the work conducted to explore this gravitational anomaly.

[iii] A review of the significant experiments was presented in a paper to the *Review on possible Gravitational Anomalies* in 2005 (Updated 2007) by Dr. Xavier E. Amador (*This is an expanded version of the work published in the Proceedings of* VI Mexican School on Gravitation and Mathematical Physics, "*Approaches to Quantum Gravity"* in the *Journal of Physics: Conferences Series* of the Institute of Physics (IoP-USA). nov. 21-27, 2004, México). The results of recent work conducted by Tom Goodie during the April 2005 solar eclipse in Central America are accessible at http://www.allais.info/eclipsereport.htm.

[iv] J. Saxl and M. Allen, "1970 Solar Eclipse as 'Seen' by a Torsion Pendulum", Phys. Rev. D 3 (1971) 823-825. http://link.aps.org/abstract/PRD/v3/p823

[v] The term *Iasoberg* was coined as the generic descriptor for the regions of the Iasoberg Model that intersect the Earth’s surface (refer Section 2.3 of Note 2 Oberg E. 2007). Initially the Iasobergs were displayed as a line on the Earth’s surface to indicate their location. Prior to the commencement of the August 2008 severe wind event study, 2 additional Iasobergs had been developed to provide additional intersections on the Earth’s surface for investigating links between any event(s) and the IM. The IMA was coded to generate the geometry and location of the two additional Iasobergs, namely the Solar and Galactic Earth Centric Iasobergs. The geometry of these Iasobergs is as per the initial 4 (refer Note 2), except these Iasobergs are focused at the centre of the Earth. All the work and results presented in Note 4 are based on the current versions of the IM and its associated software the IMA. These current versions are both configured with 6 x 3 band Iasobergs. The hail study used only 4 Iasobergs which were configured differently.

[vi] The severe wind event longitudes are adjusted, for the instant(s) of the analysis, to locate the relative position of the severe wind events (moving with the Earth’s rotation) to the essentially stationary Iasobergs (moving with the Earth/Moon’s revolution around the barycenter). Note: The adjusted longitude of a severe wind event will be equal to the actual longitude of that event when the UT of the event (UTE) = the UT used for the calculation of the Iasobergs (UTI). Hence, the locations of the adjusted longitudes events are slightly displaced from the correct adjusted position by a factor that is proportional to the difference between the UTE and UTI. For example, an event within one hour either side of the UTI will result in its adjusted longitude being within one degree of its correct adjusted location for the UT of its occurrence.

[vii] The two longer edges of the windows were constructed parallel to the azimuth of the mid band of the SECI. The width of the windows was determined by the peaks and trough of the ‘M signature’ with a 1.5 degree gap separating the 2 outer windows from the mid window.

[viii] X. Amador, ibid.

[ix] X. Amador, ibid.

[x] T. Van Flandern and X. S. Yang, “Allais gravity and pendulum effects during solar eclipses explained”, Phys. Rev. D 67 (2003) 022002, http://link.aps.org/abstract/PRD/v67/e022002.

[xi] K. Tang, Q. Wang, H. Zhang, C. Hua, F. Peng and K. Hu, “Gravity effects of solar eclipse and inducted gravitational field”, http://adsabs.harvard.edu/abs/2003AGUFM.G32A0735T

[xii] Kuusela T, Jäykkä J, Kiukas J, Multamäki T, Ropo M and Vilja I,. "Gravitation experiments during the total solar eclipse", Phys. Rev. D 74, 122004 1-8 (2006) http://users.utu.fi/kuusela/gravity/Report.pdf (**GRASE** Project [**GRAVITATION ANOMALIES DURING SOLAR ECLIPSE**])

[xiii] X. Amador, ibid.

[xiv] J. Saxl and M. Allen, ibid p 824.

[xv] X. Amador, ibid.

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