

## The response of The 20 May 2012 solar ecliption the geomagnetic field

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The solar eclipse geomagnetic effect was studied ealier, but it was not clear so many.

We cannot distinguish geomagnetic effects due to an eclipse-induced from S<sub>q</sub> variation, because S<sub>q</sub> variation has irregularity depending on the day.

We need to evaluate the irregularity of S<sub>q</sub> variation to detect a disturbance during annular solar eclipse,when the effect expected is most discernible.

The annulation belt of the solar eclipse on 21 May 2012 run from the southwest of Japan to northeast,where the precise obsertational data gained in.

Creating a mathematical model through making reference to data of each observatory in Japan allow to presume the S<sub>q</sub> variation in Katano (KTN).

Some observatory has geomagnetic effect due to a solar eclipse and others don't have. Therefore, several mathematical models generate the residual having various signature.

In this paper,the results are compared with each other to detect a of annual solar eclipse.

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