



DEMETER observations of electromagnetic perturbations connected with seismic activity: under what conditions is the effect observed?

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We present a study of the relationship between seismic activity and intensity of electromagnetic waves observed by the DEMETER satellite (launched in 2004, still operating, altitude of orbit about 700 km). First, we reprocess the previously performed statistical study using a larger data set. We show that there is a statistically significant decrease of wave intensity shortly before the time of the main shock. Further, we study this effect more in detail, namely focusing on the following points:

1. Does the effect occur directly above the epicenter of an earthquake or is it shifted off its location? What are the dimensions of the affected area? What is the shape of the affected area?
2. What is the minimum magnitude of an earthquake needed for the effect to be observed? What is the maximum depth of an earthquake for which the effect can occur? What is the relation between the two?
3. Is the effect limited only to the earthquakes below the land or can it occur also for the earthquakes below the ocean?
4. Does the effect occur for all types of earthquakes or any specific type is needed?