Are electromagnetic phenomena preceded to earthquakes real precursors?

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Despite its extreme importance and decades of efforts, practical short-term earthquake prediction still remains to be achieved in future. However, the electromagnetic research has been demonstrating some promise. In the presentation, we briefly review the recent progress of what we call 'seismo-electromagnetics' and point out the fundamental unsolved problems.

Recently, we found that the results of active monitoring experiments in Kirgiz during 1980s. They made large current injection experiments as a part of geophysical exploration study. This current injection experiments obviously activated the local seismicity. It means that the possibility of the large electric current (including lightning) might trigger the earthquakes.

In the presentation, we also would like to propose ideal case study should be included the following information. 1) the authors must show the sufficient length of the data, 2) characteristics of the measurement devise is well described, and 3) try to explain why the authors considered the observed phenomena as precursor. Furthermore, it is the not all the case, the source of the observed phenomena originated the impending epicenter region.

We believe that the electromagnetic studies will play an important role in not only earthquake prediction but also in understanding the physical processes of earthquake generation.