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Lithosphere-atmosphere-ionosphere coupling processes for 2022 Luding Ms6.8 earthquake in China

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Due to the significant earthquake-related perturbations observed in the ionosphere by ground-based stations and space-borne satellites, scientists have increasingly focused on the studying the possible coupling mechanism among lithosphere, atmosphere and ionosphere. In this work, we contribute to this research, analyzing the phase of preparation of the 2022 Ms6.8 Luding (China) earthquake with a multi-parameter and multi-level approach from ground and satellite data taken in lithosphere, atmosphere and ionosphere, including the b value, earth resistivity, ELF magnetic field emissions, atmospheric electric field, surface temperature, foF2 from Ionosonde, GNSS TEC, magnetic field and electron density from CSES and Swarm satellites, etc. The results are encouraging confirming a chain of processes starting from ground and proceeding to the above atmosphere and ionosphere.