



# Multiparametric and multilayer investigation of global earthquakes in the World by a statistical approach

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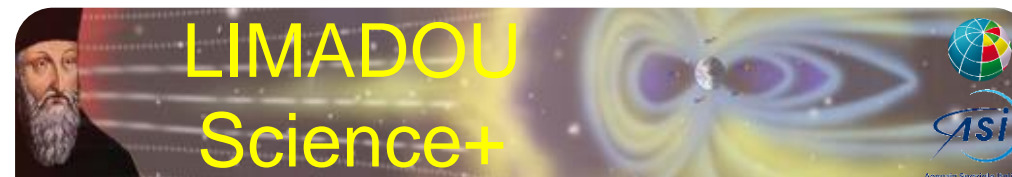
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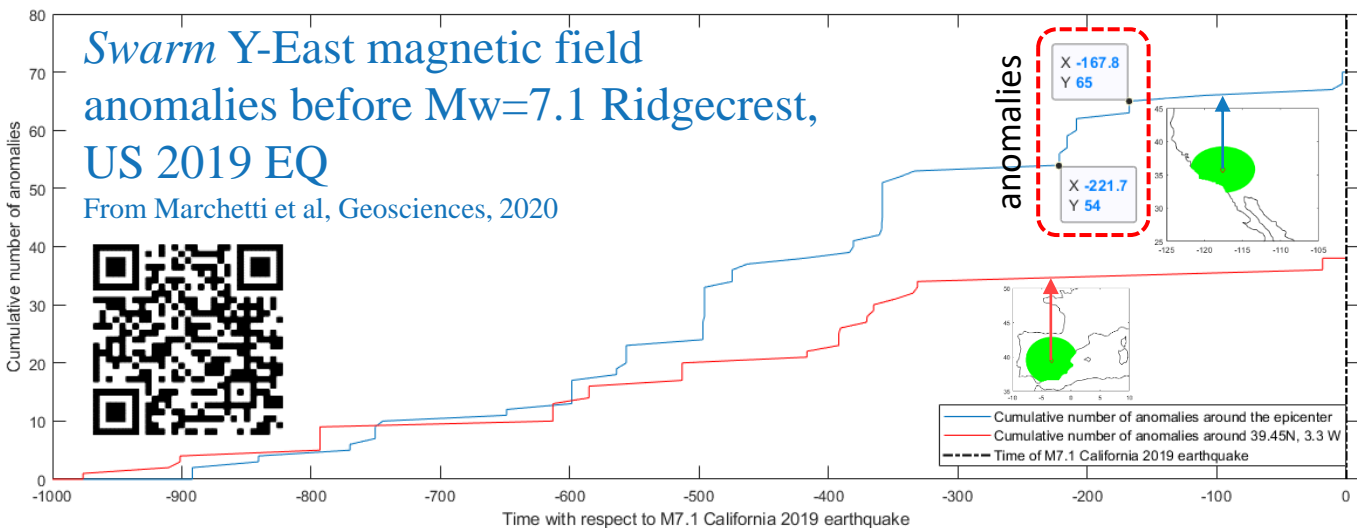


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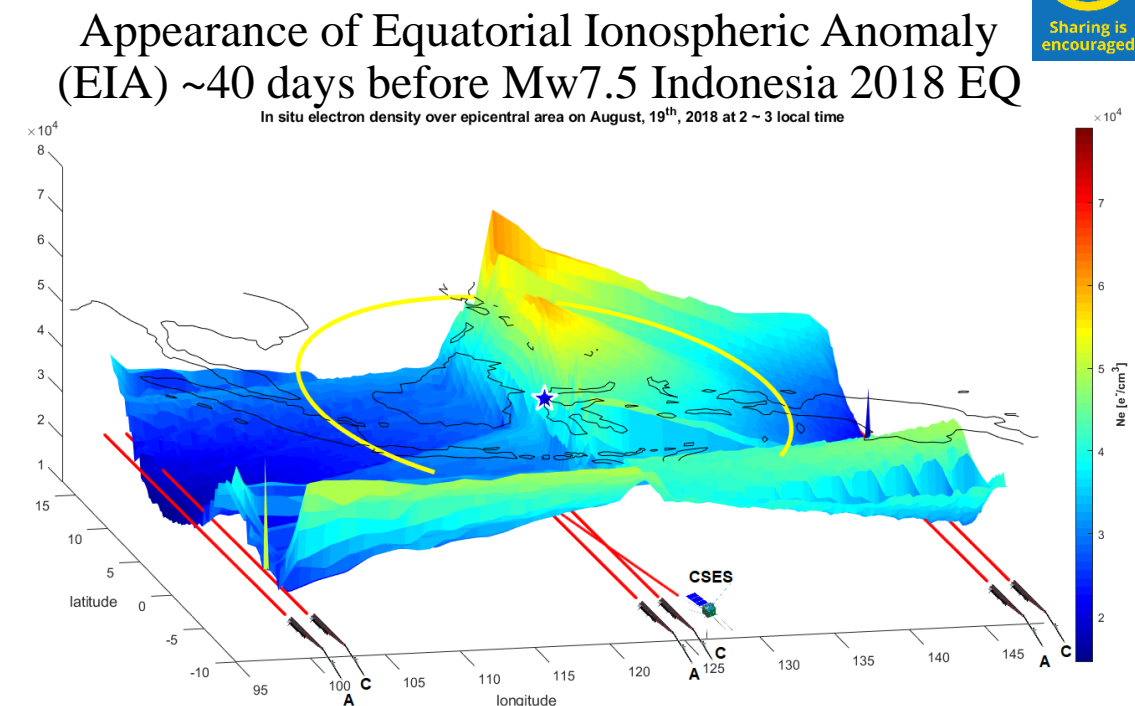
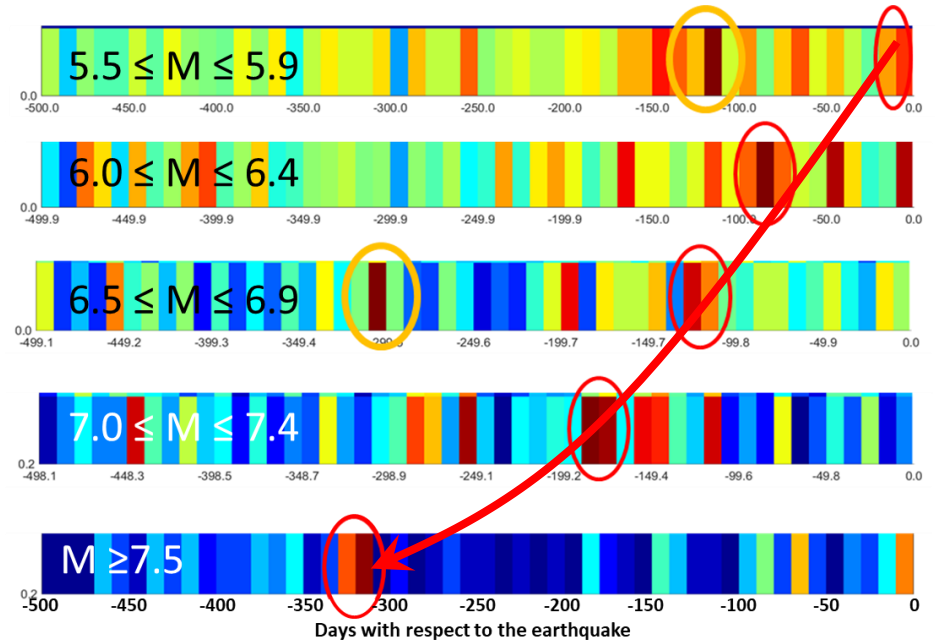
Presentation EGU22-3337 –  
27 May 2022 09:18 CET  
(15:18 China)

Research background



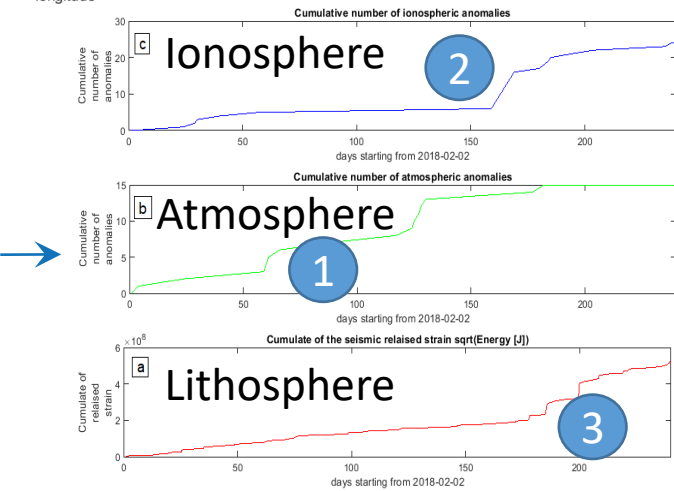
Worldwide Statistical Correlation of *Swarm* magnetic field anomalies and M5.5+ earthquakes (2014-2018)

From De Santis et al., SR, 2019



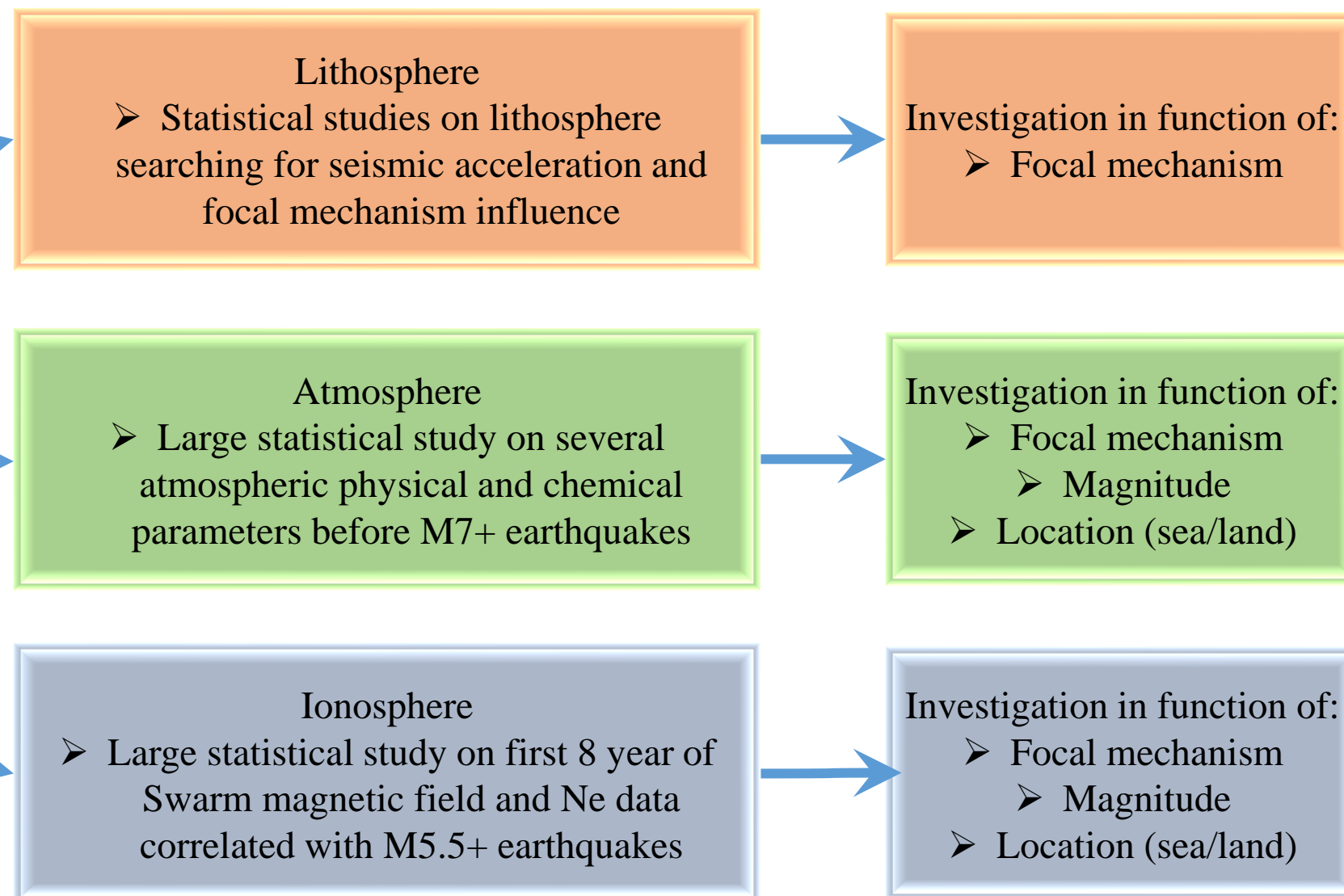
Multilayer investigation of single case study (Mw7.5 Indonesia 2018 EQ)

From Marchetti et al., JAES, 2020





## Afforded researches



For further details, see the presentation EGU22-3337 – 27 May 2022 09:18 CET (15:18 China)



# Conclusions and future perspectives



- Statistical investigation applied to lithosphere atmosphere and ionosphere is providing interesting results depicting anticipation time longer than expected
- Including in the analysis earthquake tectonic settings (as focal mechanism) permits to better understand which mechanism and precursor is more likely to precede which earthquake and understand (partially) why the preparation time patterns are different
- Future works will integrate more the multiparametric and multilayer studies in a statistical approach taking into account different earthquake features!

Invitation to submit papers on  
Lithosphere Atmosphere Ionosphere Coupling  
to study the earthquakes and their preparatory phase:

*Thank you very much  
for your attention!*

The banner for the journal *remote sensing* (an Open Access Journal by MDPI) features a QR code and two circular logos: a yellow one for Impact Factor 4.848 and a blue one for CITESCORE 6.6 SCOPUS. The main text of the banner reads: "Remote Sensing Observations to Improve Knowledge of Lithosphere–Atmosphere–Ionosphere Coupling during the Preparatory Phase of Earthquakes". Below this, it lists the Guest Editors as Dr. Dedalo Marchetti, Prof. Dr. Kaiguang Zhu, and Prof. Dr. Yunbin Yuan, with a deadline of 31 August 2022. The URL [mdpi.com/si/106360](https://mdpi.com/si/106360) is provided at the bottom left. The words "Special Issue" are written in large green letters at the bottom right, with "Invitation to submit" written below them.

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**Guest Editors**  
Dr. Dedalo Marchetti, Prof. Dr. Kaiguang Zhu, Prof. Dr. Yunbin Yuan

**Deadline**  
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