ID: Type: **Oral**

T3.3-O4. Automatic P-onset precise determination based on local maxima

Seismic phase arrival time identification is a fundamental and vital task in seismic signal processing as it enables seismologists to derive important geological and seismological information. This includes location of earthquakes and other seismic sources such as nuclear explosions and quarry blasts. Additionally, seismic phase properties have served in many other studies, including source mechanism and seismic signal identification. Accurate and reliable automatic picking of very low and emergent seismic arrivals is still a major challenge in seismic signal processing. Due to the importance of accurate picking tasks, a large effort has been put into finding efficient and sophisticated algorithms that can detect and precisely pick arrivals of seismic waves. The aim of the current study is to propose a robust method for picking the arrival of the P-wave based on Local maxima. Such a technique provides a reliable detector for both frequency and amplitude variations. Therefore, it mainly addresses the problem of automatic picking of low signal-to-noise ratio P-arrivals. Experimental results on real seismic data, consisting of seismic events of different signal-to-noise ratios, and comparison with commonly used methods in practice demonstrate the reliable performance of the proposed method.

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