ID: Type: **Oral**

2.3-O4. MS VMAX: Implementation and developments of an operational tool for event characterization at the French National Data Center

The surface wave magnitude (Ms) compared to the body-wave magnitude (Mb) constitutes a robust discriminant between tectonic earthquakes and underground explosions. However, the use of this discriminant becomes difficult for relatively small magnitude seismic events that do not generate sufficiently large Rayleigh and Love wave amplitudes at teleseismic distances. The MS VMAX magnitude defined by Russel et al (2006) appears as a better alternative as it does not require a limited frequency range commonly used for the calculation of Ms. The French National Data Center (NDC) developed an automated MS VMAX evaluation based on the Russel et al. (2006) approach using regional stations and data filtered between 8 and 40 sec periods. Furthermore, this relatively new magnitude can be calculated using different types of sensors (i.e., broadband and short-period), and allows for a better discrimination factor for small magnitude earthquakes (M3.5+). We present the current implementation and developments of the MS VMAX tool at the French NDC. Using a large seismic dataset from the Euro-Mediterranean region we show that the MS VMAX method improves event detectability and characterization. Russel et al. (2006), Bull. Seism. Am., 96,2, pp. 665-677.

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Track Classification: 2. Events and their characterization