



1 The 2000 Ebreichsdorf Earthquake Sequence, Lower Austria

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In July 2000, near the town of Ebreichsdorf, approximately 30 km away from the Vienna city centre, a sequence of two M_w 4.4 and M_w 3.9 earthquakes followed by several smaller events, occurred. The first shock was the strongest in Austria since more than a quarter century. The earthquakes caused only some minor damage but were felt strongly throughout Lower Austria and the Vienna region. The events occurred on the fringe of the Vienna Basin, which is a pull-apart basin along the larger Vienna Basin Transfer Fault (VBTF) system that runs between the Eastern Alps and the Western Carpathians.

The two mainshocks were analysed using regional broadband data. Their moment tensors are very similar, both revealing a sinistral strike-slip mechanism in agreement with the supposed kinematics of the fault system. The aftershock sequence was studied with data from a seven station short-period array that was deployed shortly after the two mainshocks occurred. Their mechanisms, determined from high-frequency local waveforms, show a greater variability.

Because of its vicinity to the densely populated Vienna metropolitan area, it is of particular interest to better understand the geometry, kinematics and earthquake potential of the VBTF system. The Ebreichsdorf sequence allows a detailed look into one of its segments.