



An unusual earthquake in central Zealand, Denmark

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On November 6, 2001 at 18:05 UTC a small, $M_L=2.8$ earthquake struck central Zealand, approximately 60 km from Copenhagen. Despite the modest magnitude, the shaking and loud sounds from the earthquake frightened people over a large area. Minor damage to a few houses was reported. Earthquakes in Denmark are rarely strong enough to be felt, and site responses are only known in very general terms. This particular earthquake resulted in more than 300 useable felt reports. More than half of the observers reported hearing deep humming sounds or a large bang as the earthquake struck. The earthquake was felt widely east of the epicenter, out to a distance of more than 60 km, whereas the earthquake was hardly felt west of the epicenter. The felt area correlates very well with the local geology, where thick sediments west of the epicenter appear to have dampened out the shaking. Several techniques for determining the focal mechanism have been tested, but the data quality is insufficient to yield a reliable result.