Multiple event relocation of the 22 April 2013, M_L=4.8 Tenk, Hungary earthquake aftershocks

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The Tenk, Hungary earthquake (M_L= 4.8) occurred on 22 April 2013. The mainshock was preceded by two minor foreshocks (M_L=3.6, 2.5) was followed by 27 aftershocks with magnitudes between M_L 0.7-2.9. The routinely picked arrival times in the Hungarian Earthquake Bulletin were manually repicked to increase the consistency and accuracy of the P and S arrivals. Waveform cross-correlation was used to obtain differential times. We applied the double-difference method with different datasets to investigate the influence of repicked P and S arrival times, initial hypocenters and different velocity models on the relocation process. The results improved with in every step, compared to the original, routinely determinated locations. The results show that the multiple event location procedure significantly enhances the picture of seismicity even in this earthquake sequence.