



## **Detailed relocation of the aftershock seismicity of the 17 August 1999 Izmit earthquake**

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We relocated aftershocks of 17 August 1999 Izmit earthquake ( $M_w=7.4$ ) by combining available seismic data collected in the region. We employed Source Specific Station Term method to locate aftershock along 150 km rupture. The relocated aftershocks show the details of the activity with a greater precision than previously presented. The seismicity shows linear alignments on the northern escarpment of the Cinarcik basin related to the preexisting weakness zones. We performed multiplet analysis on the clusters in Yalova and Tuzla. Several stepover features were also revealed along the rupture. These features may be related to the activation of the secondary faults. The rupture zone on the east of Sabanca lake on which super shear rupture velocity has been observed during the mainshock is almost free of aftershocks, the wide spread of aftershocks being away from the fault.