



## **The Origin of Ground Deformations that Caused Damage at Sarigol-Manisa -Turkey**

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March 28 1969 Alaşehir (Turkey) Earthquake ( $M_s=6.5$  and  $I_o = VIII$ ) caused 36 km length surface faulting and heavy damage along the eastern part of the Gediz graben. Observed fractures were developed as a normal fault character with a vertical displacement that was changing between 3 and 13 cm and NE block was fallen down. Faulting was characterized by normal faulting and as we mentioned before NE block fell down. Surface fractures have been formed by subsidance and collapse of alluvion at hill foots which are bordering the valley.

Since 1969, at Sarigöl district, which lies at the east side of fault line, ground deformations and damages caused from deformations have been observed. In this study, ground deformations and damages at centre of Manisa/Sarigöl district have been examined and this information have compared with actual seismic activities. Purpose of observing the vertical direction of fault, we were opened four trenches around the fault line. From the research results, it is thought that this movement which causes deformation and damage is a result of vertical displacement and normal component fault's unusual aseismic slip at aseismic period since 1969.