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Sommario/riassunto	The aim of the present work is to describe the deformation and fracture behavior of single crystal tungsten at the microscopic scale by using the finite element method. Therefore, the studies focus mainly on the influence of crystal orientation as well as the investigation of crack initiation and crack propagation. With a defined crack propagation model, the simulations of microbending allows for evaluating the details of the fracture process more accurately and supported the experimental studies.