Symmetry in obstacle problems

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We prove symmetry results for two types of overdetermined obstacle problems: one is a Serrin-type problem and the others concern two-phase problems. The former utilizes only the comparison principle and it gives also a stability result. The latter relies on Serrin's method of moving planes under the overdetermination that the interface is a level surface of the solution, and the transmission conditions on the interface play a key role.

This talk is based on a joint work with Nicola De Nitti.