

Supplementary Material for:

Detailed in situ hot stage Transmission Electron Microscope observations of the localized pinning of a mobile ferrite-austenite interface in a Fe-C-Mn alloy by a single oxidic particle.

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Supplementary Video 1 caption:

Supplementary Video 1: In situ TEM video of the pinned austenite-ferrite interface analyzed in detail. The pinning effect took place over the course of 12-20 seconds, during which time there was an increase in the temperature of approximately 2.5°C.

Supplementary Video 2 caption:

Supplementary Video 2: In situ TEM video of the pinning of a migrating austenite-ferrite interface in a steel of the same composition. The interface was successively pinned by 4 particles over a period of approximately 2.5 seconds. During this time the temperature change was less than <1°C. In contrast to the interface analyzed in more detail and shown in Supplementary Video 1, the interactions recorded here took place during the normal austenite to ferrite transformation where the interface velocity was significantly higher.