## SIMULATIONS OF RESISTIVITY RECOVERY CURVES OF ELECTRON-IRRADIATED

## DILUTE FECR ALLOYS USING AN OBJECT KINETIC MONTE CARLO MODEL

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An Object Kinetic Monte Carlo model is being developed for dilute (less than 1% Cr) FeCr alloys. Starting from a set of parameters for defect energetics in pure Fe that was able to reproduce the resistivity recovery curve of electron irradiated b.c.c. Fe [1], the model is modified to include the effects of Cr on the mobility of radiation defects, using information obtained either from density functional theory or molecular dynamics calculations. This model is then applied to study isochronal annealing after electron irradiation of FeCr alloys varying Cr concentration following the experimental conditions of Abe & Kuramoto [2]. We focus on the recovery stages ID2, IE and II attributed to correlated and uncorrelated recombination between vacancies and self-interstitials and migration of self-interstitial clusters, respectively. The comparison between the simulations and the experimental measurements reveal the importance of certain parameters, particularly the capture radius between Cr and Fe self-interstitials.

[1] C.C. Fu et al., Nat. Mat, 4, 2004, 68-74
[2] H. Abe & E. Kuramoto, J. of Nucl. Mat., 271 & 272, 1999, 209-213