Modelling electron-sample interactions with the software CASINO

We model the electron-sample interactions with the software CASINO (monte CArlo SImulation of electroN trajectory in sOlids; Hovington et al., 1997; Drouin et al., 2007) at the analytical conditions of 15 keV accelerating potential and a 30 nA focused beam. In all the Fe-Ti oxide end-members the radius of horizontal interaction is < 1 µm and the length of vertical interaction is < 1.5 µm (see Figures).

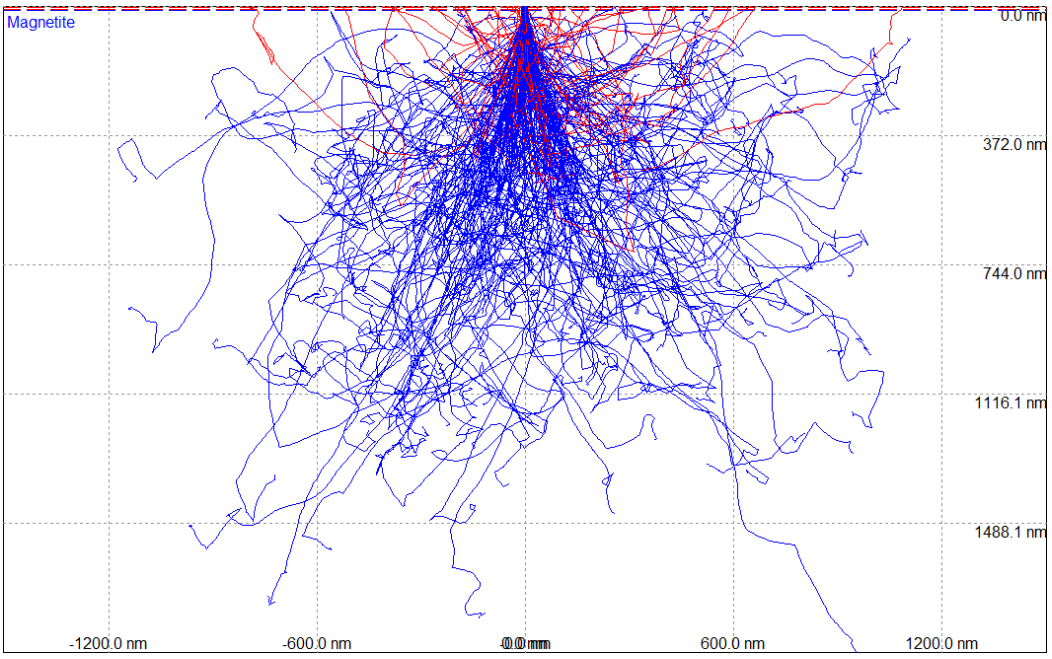

Fig SM2. Image representing the interaction volume of the electron beam and the magnetite end-member of the Fe-Ti oxides solid solution.

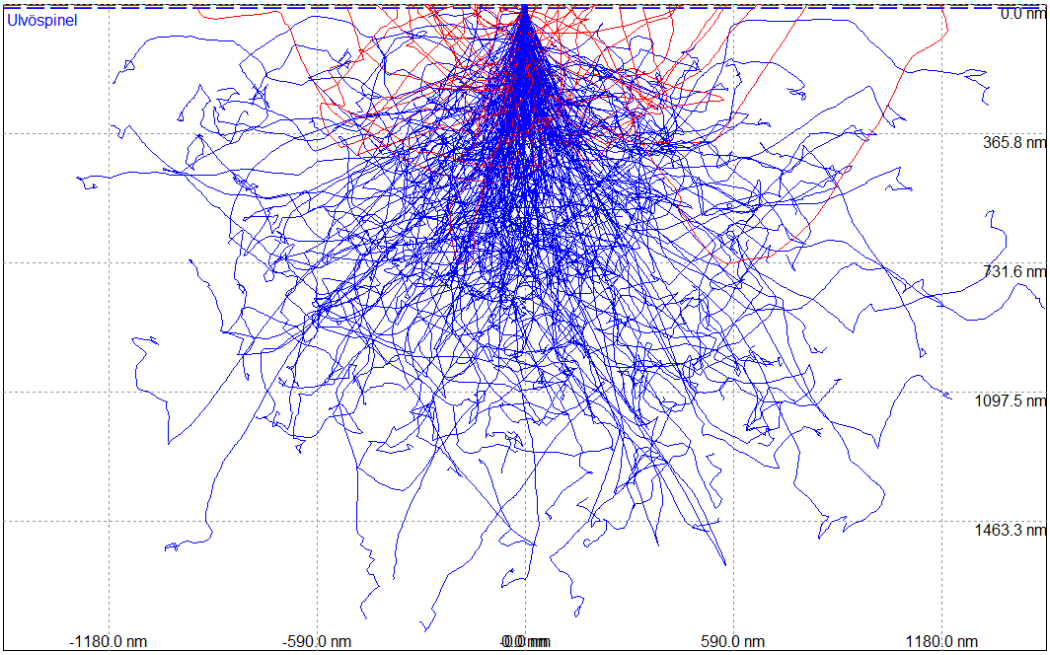

Fig SM3. Image representing the interaction volume of the electron beam and the ulvöspinel end-member of the Fe-Ti oxides solid solution.

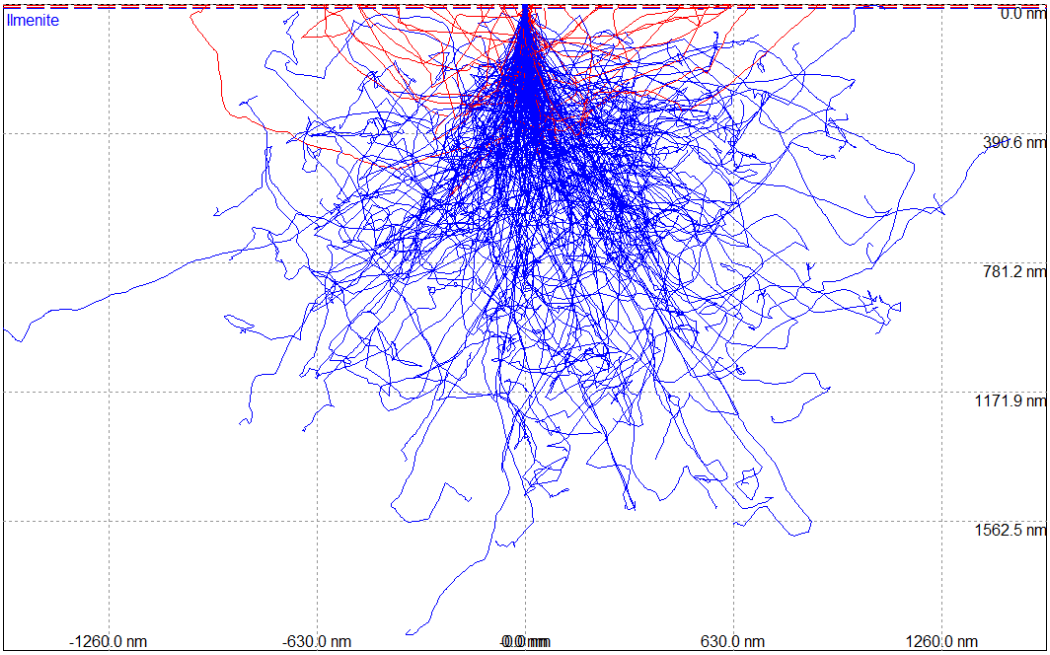

Fig SM4. Image representing the interaction volume of the electron beam and the ilmenite end-member of the Fe-Ti oxides solid solution.

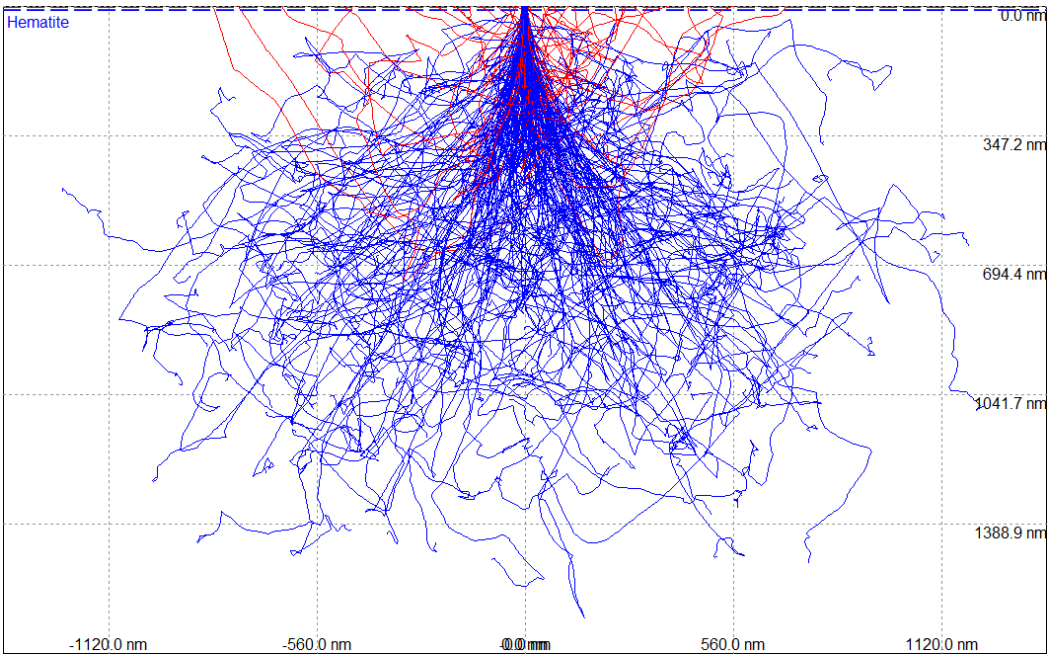

Fig SM5. Image representing the interaction volume of the electron beam and the hematite end-member of the Fe-Ti oxides solid solution.

References

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