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Chemical characterization of high pressure shock veins and melt pockets for detailed large area TEM-studies on the Tissint meteorite.

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Fragments of the martian shergottite fall were found in the maroccan desert near the town Tissint in 2012 [1]. It represents one of the freshest martian samples we have in our collection [2]. Raman and SEM analyses on several polished sections yield the high pressure phosphate Tuite with grain sizes up to 10µm in diameter. Throughout the poicilitic basaltic texture several Tuite crystals were found along shock veins. One of the sections is prepared for ArIS treatment [3]. Detailed TEM studies will be performed on large area (>20,000 µm²) TEM section of shock veins and glassy melt pockets in order to reconstruct the high pressure shock history of the martian sample.

[1] Garvie et al., 2012, MetBull 100, Meteoritics & Planetary Science. [2]. Chennaoui Aoudjehane, H. et al., 2012, Science 338, 6108. [3] Stojic, A. & Brenker, F.E., 2010, EJM 22, 17–21.

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