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## **Spicule-like structures found in realistic 3D numerical simulations**

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**Abstract.** In numerical simulations spanning the convection zone to corona we find different types of spicule-like structures (type I spicules as well as small jet like structures, similar to type II spicules). The numerical code includes the full MHD equations with conduction along the field lines and radiative transfer. In addition, magnetic flux is injected through the lower boundary placed in the upper convection zone and emerges into the lower solar atmosphere. The spicules and jets are formed by the natural evolution of the physics and dynamics in the 3D simulations. We will describe the physics and make some comparisons with observations made with Hinode and the Swedish 1-meter Solar Telescope.