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Coordinates for webs in surfaces and their application to $SL(3)$ -representations of surface groups and their quantization

(Joint work with Charles Frohman.) The space of $SL(3)$ -representations of a surface F group can be described in terms of 3-valent oriented graphs in F (called webs) in a similar way as the space of $SL(2)$ -representations of $\pi_1(F)$ is described in terms of multi-curves in F . In this talk, we construct coordinates for webs in punctured surfaces with ideal triangulations.

As an application of this result we show that the $SL(3)$ -skein algebra of a surface, quantizing its $SL(3)$ -character variety, is finitely generated.