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Cubulations of Artin groups

This is joint work with Jingyin Huang and Piotr Przytycki. A group is cocompactly cubulated if it acts properly and cocompactly by combinatorial automorphisms on a $CAT(0)$ cube complex. We give a characterization of cocompactly cubulated 2-dimensional or 3-generator Artin groups in terms of their defining graphs. Moreover, any such Artin group has a cocompactly cubulated finite index subgroup exactly when it is cocompactly cubulated without passing to a finite index subgroup. In my talk, I will discuss this result and give an overview of the proof.