1138-46-94 **Noah Snyder*** (nsnyder@gmail.com) and **Victor Ostrik**. *Diagrams and quantum G2 at roots of unity.* Preliminary report.

Kuperberg introduced a planar algebraic description of quantum G2 which agrees with the algebraic version when q is not a root of unity. When q is a root of unity the situation is more subtle. We show that unless q is one of a finite list of bad roots of unity, the Kuperberg spider agrees with the category of tilting modules for G2. In particular, the semisimplification of the Kuperberg spider agrees with the semisimplified quantum group category. Combining this result with the classification of trivalent categories from Peters-Morrison-Snyder, we get a Kazhdan-Wenzl-style recognition theorem for G2, which says that any tensor category which has the same fusion rules as G2 at a root of unity must be G2 at a root of unity. (Received February 02, 2018)