1051-14-270   **Sean Dodd Lawton*** (`lawtonsd@utpa.edu`), Department of Mathematics, The University of Texas-Pan American, 1201 West University Drive, Edinburg, TX 78539, and **Carlos Florentino** (`cfloren@math.ist.utl.pt`), Lisboa, Portugal. *Singularities of free group character varieties.* Preliminary report.

Let $\mathfrak{X}_r$ be the moduli of $\mathrm{SL}(n, \mathbb{C})$, $\mathrm{SU}(n)$, $\mathrm{GL}(n, \mathbb{C})$, or $\mathrm{U}(n)$ valued representations of a rank r free group. We classify the singular stratification of $\mathfrak{X}_r$. This comes down to showing that the singular locus corresponds exactly to reducible representations if there exist singularities at all. Additionally, we show that the moduli $\mathfrak{X}_r$ are generally not topological manifolds, except for a few examples we explicitly describe. (Received August 26, 2009)