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Charles D Frohman* (frohman@math.uiowa.edu), Department of Mathematics, The University of Iowa, Iowa City, IA 52242. *Network Topological Field Theory and Representations of Web Groups.*

A web is a trivalent graph that is embedded in the three sphere, with its edges oriented and colored. A foam is a singular surface modeled with its faces oriented and colored embedded in a cylinder over the three sphere. We will discuss the connection between Topological Field Theories based on webs and foams, and the cohomology groups of spaces of representations of the fundamental group of the complement of the webs in the three sphere, and the representations of the fundamental group of the complements of foams embedded in a cylinder over the three sphere. (Received August 03, 2010)