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Generalized splines on infinite graphs.

Given an edge-labeled graph, a generalized spline is a labeling of the vertices so that the difference between adjacent vertex labels is a multiple of the corresponding edge label. This definition generalizes the notion of splines from classical analysis and applied mathematics.

We discuss several new results on generalized splines, including how to construct bases for splines for certain infinite graphs. Surprisingly, this answers the question of how to construct the equivariant cohomology of a geometric space called an affine Springer fiber. Time permitting, we may also discuss results about bases for other spline spaces related to questions in approximation theory. (Received September 19, 2016)