

Degenerations of linear series to curves with three components, using quiver representations

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We explore the existence of simple bases for certain special quiver representations arising from degenerations of linear series on nodal curves. The existence of a simple basis implies that the representation decomposes into representations of dimension one and simplifies the calculus of the Hilbert polynomial of the quiver Grassmannian associated to the representation. For these quiver representations, we characterise the existence of a simple basis with a *local* condition. And to a nodal curve with three components we show that its *linked projective space* is Cohen-Macaulay, reduced and has pure dimension.

This is a joint work in progress with Eduardo Esteves and Renan Santos.