# Diagrammatic description of $c$-vectors and $d$-vectors of cluster algebras of finite type

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There are two important families of integer vectors associated with any cluster algebra with principal coefficients, namely, $c$-vectors and $d$-vectors (denominator vectors). To put it simply, they are the tropicalized versions of coefficients. and cluster variables, respectively. The $d$-vectors have been studied for a long time especially in the context of cluster categories and cluster tilted algebras. The $c$-vectors also accumulate interest recently in connection with the categorification and tropicalization methods.

In the first part of my talk we review the known properties of these vectors, especially focusing on the root property and the connection to the dimension vectors of cluster tilted algebras. Then, in the second part we present an explicit diagrammatic description of the $c$-vectors and the $d$-vectors of any cluster algebra of finite type except for $E_7$ and $E_8$ for an arbitrary initial exchange matrix.

This is based on the joint work with Salvatore Stella.