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*Colourings of path systems*

A path system of order  $n > 1$  is a partition of the edges of the complete graph  $K_n$  into paths. A path system is said to be  $k$ -colourable if the vertex set of  $K_n$  can be partitioned into  $k$  sets called colour classes such that no path in the system is monochromatic. The system is  $k$ -chromatic if it is  $k$ -colourable but is not  $(k - 1)$ -colourable. If every  $k$ -colouring of a path system can be obtained from some  $k$ -colouring  $\phi$  by a permutation of the colours, we say that the system is uniquely  $k$ -colourable. In this talk, we will see some results on  $k$ -colourings of path systems for all  $k \geq 2$ . We will also present some results on unique 2-colourings of path systems. This is a joint work with David Pike.