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k-colourings of star systems

A c -star is a complete bipartite graph $K_{1,c}$. A c -star system of order $n > 1$, $S_c(n)$, is a partition of the edges of the complete graph K_n into c -stars. A c -star system $S_c(n)$ is said to be k -colourable if its vertex set can be partitioned into k sets (called colour classes) such that no c -star is monochromatic. The system $S_c(n)$ is k -chromatic if $S_c(n)$ is k -colourable but is not $(k - 1)$ -colourable. If $S_c(n)$ is k -chromatic, we say that its chromatic number is k . In this talk, we will discuss some new results of k -colourings of star systems.