RESTRICTED DOMINATION IN 2−COLOURED TOURNAMENTS

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Let G and H be two digraphs, H possibly with loops. We say that G is $H-$coloured when there exists a function $f : A(G) \longrightarrow V(H)$. A walk $C = (v_1, v_2, v_3, ..., v_n)$ in G is called an $H-$walk if the succession $(f(v_1, v_2), f(v_2, v_3), ..., f(v_{n-1}, v_n))$ is a walk in H.

Also, let $N \subseteq V(G)$, we say that N is a kernel by $H-$walks if the following conditions are fulfilled:

1) Let $x \in V(G) - N$, then there exists an $xy - H-$walk in G for some $y \in N$.

2) Let x,$y \in N$, with $x \neq y$, then an $xy - H-$walk does not exists.

When every subdigraph of a digraph G has kernel by $H-$walks we say that G is kernel perfect by $H-$walks.

In this talk we present the following result; if we have a digraph H such that $|V(H)| \leq 2$ and H is not isomorphic to the tournament on two vertices, then for any $H-$coloured tournament T, such that every C_3 in T contains an $H-$walk of length at least 2, then the tournament is kernel perfect by $H-$walks. This result generalize the one of Sands, Sauer and Woodrow. They proved in 1982 that any tournament 2−coloured is kernel perfect by monochromatic paths.

Keywords: Restricted Domination, Tournament , $H-$walk.

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