

Fragments of Domination Theory in Graphs- Invariants, Interrelations, and Algorithmic Aspects

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Domination-like problems have been central to the computational complexity theory since the late 1970s. The lectures will give a light introduction to a selection of concepts related to domination problems in graphs. Examples of old and new domination invariants along with their applications will be given, followed by a discussion of some algorithmic and complexity aspects, with respect to both classical complexity and approximation points of view. Further topics to be presented include efficient algorithm design for domination problems in restricted graph classes, relationships between domination invariants, and connections with transversals in hypergraphs.