

On designing truthful Pareto optimal mechanisms in matching markets

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The House Allocation (HA) problem (also known as the Assignment problem) is the problem of allocating a set of indivisible objects among a set of agents, where each agent has ordinal preferences (possibly involving ties) over a subset of the objects. I will consider HA in its classical form, i.e. a one-to-one matching market, as well as its extension to a many-to-many market. For each of these markets I will provide several results on designing truthful mechanisms without monetary transfers for finding Pareto optimal matchings.