

Elementwise containment among representations of a group

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Abstract: For two representations V and W of a group G , we define a weaker notion of containment of W inside V , denoted $W \prec V$, which we call W immersed in V , if for every element $g \in G$, the eigenvalues of the action of g on W (counted with multiplicity) is contained in the eigenvalues of g (counted with multiplicity) acting on V . We discuss this notion with some examples.