

# Difference Subgroup Graph

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## Abstract

The *difference subgroup graph*  $D(G)$  of a finite group  $G$  is defined as the graph whose vertices are the non-trivial proper subgroups of  $G$ , with two distinct vertices  $H$  and  $K$  adjacent if and only if  $\langle H, K \rangle = G$  but  $HK \neq G$ . This graph arises naturally as the difference between the join graph  $\Delta(G)$  and the comaximal subgroup graph  $\Gamma(G)$ . In this paper, we study some properties of  $D(G)$  and its reduced version  $D^*(G)$ , obtained by removing isolated vertices.

## References

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