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*Robustness of the Johnson scheme under fusion and extension*

We show that if a coherent configuration  $X$  on  $n$  vertices or its fission contains a Johnson scheme  $J(s, d)$  as a subconfiguration on  $(1 - c)n$  vertices for a sufficiently small constant  $c > 0$  and  $s > 100d^4$ , then  $X$  itself is a Johnson scheme.

Our result simplifies the conclusion of the Split-or-Johnson lemma, which is one of the key ingredients of Babai's quasipolynomial-time algorithm for the Graph Isomorphism problem.

Additionally, the result can be seen as a strengthening of a 1972 theorem of Klin and Kaluzhnin that corresponds to the case of  $c = 0$ .

Based on a joint work with László Babai.