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*Counting with the falsification by fellow traveller property*

Following ideas that go back to Cannon, we show the rationality of various growth functions counting embeddings of convex subgraphs in locally-finite graphs with the (relative) falsification by fellow traveller property. One of our applications concerns Scheier coset graphs of hyperbolic groups relative to quasi-convex subgroups, we show that these graphs have rational growth, the falsification by fellow traveller property, and the existence of a lower bound for the growth rate independent of the generating set and the quasi-convex subgroup (provided it that has infinite index).