

# Coalescence in branching processes

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**Keywords:**

**AMS:**

## Abstract

In a tree generated by a Galton Watson branching processes go to the  $n$ th generation . If it has at least two individuals pick two of them at random by srswor and trace their lines back till they meet. Call that generation  $X_n$ . In this talk we discuss the limit behavior of  $X_n$  as  $n$  gets large for a variety of cases:single type subcritical, critical, supercritical, explosive and multitype extensions. We give applications to branching random walks as well.