# Capturing robbers by deduction

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We study a variation of the game of cops and robbers on graphs in which the cops must capture an invisible robber in one move. Cops know each others' initial locations, but they can only communicate if they are on the same vertex. Thus, the challenge for the cops is to deduce the other cops' movement and move accordingly in order to capture the robbers and guarantee a win. We call this game capturing robbers by deduction. In this talk, we introduce the deduction number as the minimum number of cops needed to capture all robbers and discuss the deduction number for some classes of graphs.