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ℓ -Visibility Cops and Robber

A variation of the Cops and Robber game is considered in which the cops can only see the robber when the distance between them is at most a fixed parameter ℓ . The cops' strategy consists of a phase in which they need to "see" the robber (i.e. move within distance ℓ), followed by a phase in which they capture the robber. We present a variety of results, including a characterization of those trees on which k cops are sufficient to guarantee a win for all $\ell \geq 1$.

This is joint work with D. Cox, C. Duffy, D. Dyer, S.L. Fitzpatrick, & M.E. Messinger.