

# Capacity of a POST Channel with and without Feedback

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**Abstract:** We consider a family of finite state channels where the state of the channel is its previous output. We refer to these as POST (Previous Output is the STate) channels. While the feedback capacity of these channels is easy to characterize, capacity in the absence of feedback is elusive. We identify a family of POST channels for which the two capacities coincide (surprisingly, in our humble opinion), and conjecture regarding conditions for the two capacities to coincide more generally. Based on joint work with Haim Permuter and Himanshu Asnani.