SHANNON DUALITY VIA LAGRANGE DUALITY

Traditionally, the conventional source and channel coding problems have been considered as information-theoretic duals of each other. Shannon, in his 1959 paper on rate-distortion theory stated, *"There is a curious and provacative duality between the properties of a source with distortion measure and those of a channel ..."*. Ever since then literature on information theory has been pervaded by the notion of duality. Recent work has established this Shannon duality via the machinery of Lagrange duality from optimization. This work will be the focus of our talk.