Continuous and Discrete Search for One of Many Objects

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Abstract

By an easy observation we show that the basic result of Blackwell, according to which the most inviting strategy is optimal in a discrete search for one object, is also true when the number of objects is random provided the search is made in continuous time. This result does not hold in the discrete search model even when only two boxes are present (contrary to a conjecture of Smith and Kimeldorf). For the case of two boxes, a convenient sufficient condition on the distribution of the number of objects is provided which ensures optimality of the most inviting strategy. As a result, this strategy is shown to be optimal for several important distributions.