

Resource extraction activity: an intergenerational approach

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ABSTRACT

The problem of resource extraction (both renewable and nonrenewable) can be studied by considering two important aspects: competition among extractors and intergenerational equity. In resource extraction activity actions of present generations influence the choices of future generation in an obvious way.

In order to capture these features we consider a differential game in which players are overlapping generations of extractors, in this way both competition and intergenerational equity are included in the model.

An important feature of this model is that, since we consider overlapping generations, players have asynchronous horizons, in contrast with a number of studies in intertemporal exploitation of resources in which players have identical time horizons.

The framework of overlapping generation allows us to consider intragenerational (players in the same generation) and intergenerational (players in different generations) game equilibrium in the contest of differential games with asynchronous horizons.