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Oscar Levin* (oscar.levin@unco.edu), School of Mathematical Sciences, University of Northern Colorado, Campus Box 122, Greeley, CO 80639. *The complexity of transcendence bases in computable ordered fields.*

While every field has a transcendence basis, it might be difficult to *find* that transcendence basis, even if the field is nicely presented. This is an early result in computable field theory of Metakides and Nerode: there are computable fields with no computable transcendence basis. In this talk, we wonder whether it might be easier to locate a transcendence basis in computable *ordered* fields. We will give a negative answer to this question and discuss the potential complexity the transcendence bases. Additionally, we consider the question for purely transcendental fields and their pure transcendence bases. (Received September 17, 2013)