1111-05-706 **Manuel Delgado**, **Pedro A. García-Sánchez** and **Aureliano M. Robles-Pérez*** (arobles@ugr.es), Department of Applied Mathematics, Sciences Faculty, Campus de Fuentenueva s/n, 18071 Granada, Spain. *On the pseudo-Frobenius numbers of numerical semigroups.*

Let $S$ be a numerical semigroup. An integer $x$ is said to be the *Frobenius number* of $S$ (respectively, a *pseudo-Frobenius* number of $S$) if $x \notin S$ and $x + s \in S$, for all $s \in \mathbb{N} \setminus \{0\}$ (respectively, for all $s \in S \setminus \{0\}$).

It is well known that, if $f$ is a positive integer, then there exist numerical semigroups with Frobenius number equal to $f$. Moreover, there are algorithms to compute all numerical semigroups with a given Frobenius number.

Let $PF$ be a set of $n$ positive integers. Denote by $\mathcal{S}(PF)$ the set of numerical semigroups whose set of pseudo-Frobenius numbers is $PF$. This set is always finite but it may clearly be empty if $n > 1$. In this way, two questions arise naturally: find conditions on the set $PF$ that ensure that $\mathcal{S}(PF) \neq \emptyset$ and find an algorithm to compute $\mathcal{S}(PF)$.

We present some theoretical results about the first question and two different procedures to determine the set of all numerical semigroups with a given set of pseudo-Frobenius numbers. (Received February 10, 2015)