



Bilkent University  
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## PROBLEM OF THE MONTH

**Term:** December 2006

Let  $\{a_n\}$  be a sequence of natural numbers such that for each  $n \geq 1$   $a_{n+1} = \sum_{k=1}^n a_k^2$  and  $a_{2006}$  is divisible by 2006. Find the smallest possible value of  $a_1$ .