QUERIES

36. *Proposed by G. Petruska, ELTE, Analizis 1. Tanszek 1088 Budapest, Muzeum Korut 6-8.*

    Suppose that $f(x,y)$ is bounded on $0 \leq x \leq 1$, $0 \leq y \leq 1$ and that $f(x,y)$ is measurable for each fixed x and Baire 1 for each fixed y. Is $\phi(x) = \int_0^1 f(x,y)dy$ Baire 1 as well? (Assuming the continuum hypothesis, the answer is negative for the case of Baire 2 sections).