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Ognian Trifonov* (trifonov@math.sc.edu), Department of Mathematics, LeConte College, 1523 Greene Street, University of South Carolina, Columbia, SC 29208. *Bounds on the largest modulus of a covering with a fixed smallest modulus.* Preliminary report.

Suppose $n > 1$ is an integer. Define $k(n)$ as the least rational number such that there exists a covering with distinct moduli, all in the interval $[n, n \cdot k(n)]$. If no such covering exists, define $k(n) = \infty$. Recently, Filaseta, Ford, Konyagin, Pomerance, and Yu showed that $k(n) \rightarrow \infty$ as $n \rightarrow \infty$. Krukenberg showed $k(2) = 6$ and $k(3) = 12$. We prove that $k(4) = 15$, get bounds for $k(5)$, and show that $k(n) > 6$ for all integers $n > 2$. (Received September 21, 2012)