

Proposed problem

Let $a_k > 0$, $k = 1, 2, \dots$ be a monotonic strictly increasing sequence such that $\lim_{k \rightarrow \infty} a_k = +\infty$. Determine the character of the series $\sum_{k=1}^{\infty} \left(\tan \frac{\pi}{2} \frac{a_k}{a_{k+1}} \right)^{-1}$

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Best regards
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