using that $w_\psi = (\cos\psi)^{n-2} \leq 1$. Then one concludes, that for $a > n$ large enough :

$$\lambda W_{n-2} < \left(1 - \frac{1}{a\sqrt{n}}\right)\sqrt{\frac{\pi}{2n}} < \left(1 - \frac{1}{a\sqrt{n}}\right) W_{n-2}$$

so that $\mathrm{Isop}(TM) = \lambda + \frac{1}{anW_n} < \lambda + \frac{1}{a\sqrt{n}} < 1 = \mathrm{Isop}(F)$, as desired.

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