

RESEARCH GROUP IN MATHEMATICAL INEQUALITIES AND APPLICATIONS

PROBLEM CORNER

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Conjecture: For $t > 0$, let

$$\omega(t) = \frac{1}{e^t - 1} - \frac{1}{t} + \frac{1}{2}.$$

Then, for $t > 0$,

$$\frac{d^2\omega}{dt^2} + 2\frac{d\omega}{dt} + \omega(t) > 0.$$