Let $x, y, z > 0$ and $r := \sqrt{x^2 + y^2 + z^2}$. Show that

$$\begin{aligned} &xy \ln\left(\frac{r+z}{r-z}\right) + xz \ln\left(\frac{r+y}{r-y}\right) + yz \ln\left(\frac{r+x}{r-x}\right) \\ &> x^2 \arctan\left(\frac{yz}{xr}\right) + y^2 \arctan\left(\frac{xz}{yr}\right) + z^2 \arctan\left(\frac{xy}{zr}\right). \end{aligned}$$

As usual, for $t \in \mathbb{R}$ we have that $\arctan(t) \in (-\pi/2, \pi/2)$.