$\dfrac{n^2-1}{9n^6+1} < \dfrac{n^2}{9n^6+1} < \dfrac{n^2}{9n^6} = \dfrac{1}{9n^4}$. $\displaystyle\sum_{n=1}^{\infty} \dfrac{n^2-1}{9n^6+1}$ converges by comparison with $\displaystyle\sum_{n=1}^{\infty} \dfrac{1}{9n^4}$, which converges because it is a constant multiple of a convergent p-series [$p = 4 > 1$]. The terms of the given series are positive for $n > 1$.