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Theorem. Let $P_{1}, U_{1}$ be the isogonal conjugates of two different points $P, U$ with respect to $\triangle A B C$. Suppose that $P, U, P_{1}, U_{1}$ are all finite points and that $P$ and $U_{1}$ are distinct. Let $A^{\prime}$ be the point, other than $A$, that circle $(A P U)$ and $\left(A P_{1} U_{1}\right)$ intersect. Define $B^{\prime}, C^{\prime}$ cyclically.

Then three lines $A A^{\prime}, B B^{\prime}, C C^{\prime}$ are concurent.


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