Tangential Acceleration

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When the tangential velocity of a rigid object (rotating in a circle) changes, the tangential acceleration is involved. The following equation (tangential acceleration is equal to the product of radius of circle and angular acceleration) is used to solve for the tangential acceleration of an object,

<math:s>\alpha_T=r\alpha<math:e>

Similar to tangential velocity, the tangential acceleration and angular acceleration only refer to its magnitude, and no direction is involved. Also, the angular acceleration has a unit of rad/s². Other units will not work for this equation.