

<b>Meeting</b>	<a href="#"><u>2016 TMS Annual Meeting &amp; Exhibition</u></a>
<b>Symposium</b>	<b>Characterization of Minerals, Metals, and Materials</b>
<b>Presentation Title</b>	LL-92: Ionizing Radiation Effects on Properties of Polyamide Composites with Colloidal Silicon Dioxide (Aerosil) and Talc
<b>Author(s)</b>	Camila Almeida Amorim, Leonardo Gondim de Andrade Silva
<b>On-Site Speaker (Planned)</b>	Camila Almeida Amorim
<b>Abstract Scope</b>	For a sustainable development, the possibilities of obtaining ecologically correct raw materials that increase the dimensional properties and reduce cost are very much desired in the industrial sector. The possibility of replacing the mineral talc powder with the colloidal silicon dioxide (AEROSIL) as mineral filler to polyamide 6 compounds was tested. AEROSIL is an amorphous substance with low density that satisfies the consumer demands. In this study both fillers – talc and AEROSIL – used in PA6 were irradiated and their properties of density and impact were analyzed. As a result both compounds demonstrated the same behavior when irradiated and not irradiated. The results have demonstrated that AEROSIL may be a viable alternative filler for replacing talc as mineral filler in polyamide 6 compounds. Thus this work contributes for minimizing environmental problems by enabling the use of AEROSIL in productive processes.
<b>Proceedings Inclusion?</b>	Planned: A print-only volume