
Subject: Re: Energy loss in MVD

Posted by [Ralf Kliemt](#) on Thu, 18 Feb 2010 14:19:52 GMT

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Hi Laura, hi Stefano.

I found in the PDG book 2008 (p. 300f) on silicon semiconductor detectors a typical example: At room temperature you produce a electron per 3.67eV energyloss. For a minimum-ionizing particle in 300um silicon this is about 22000 electrons as most probable value. With your MPV I get 23100 electrons in such 300um Si. This is compatible.

In the same book on p. 270 there is a plot for dE/dx for muons in silicon. I use the dashed line for the Landau/Vavilov/Bichsel description at the thickness of 320um and find it close to 1.2 MeVcm²/g for 1GeV muons. This is compatible, too.

Kind regards, Ralf.
