
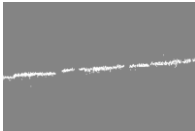
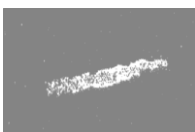
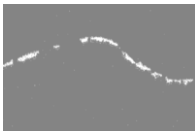
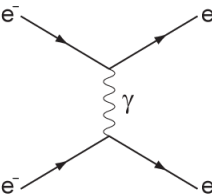

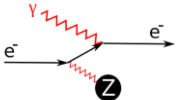
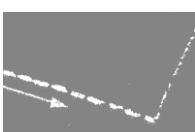
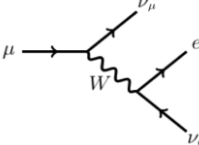
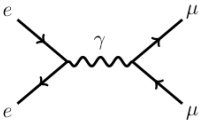


## WHAT CAN YOU SEE?

You will see different kinds of tracks, which differ in length, thickness and shape and are produced by different types of particles.

<b>Pictures</b> <small>© Karlsruher Institut für Technologie (KIT)</small>	<b>Particle</b>	<b>Explanation</b>
	<b>muon or anti-muon</b>	Thin straight tracks <ul style="list-style-type: none"> <li>- fast particles with high kinetic energy</li> <li>- they ionise molecules without scattering</li> </ul>
	<b>electron or positron</b>	<ul style="list-style-type: none"> <li>- high energy muons, electrons or their corresponding anti-particles</li> <li>- source: secondary cosmic particles</li> </ul>
	<b><math>\alpha</math> particle system</b>	Thick straight tracks (approx. 5 cm): <ul style="list-style-type: none"> <li>- alpha particle systems (<math>2p2n</math>)</li> <li>- massive particle systems with high "ionisation density" (for alpha: 1 MeV/cm)</li> <li>- source: Radon-222, natural radiation</li> </ul>
	<b>electron</b> 	Curly / curved tracks: <ul style="list-style-type: none"> <li>- slow electrons scatter with other electrons via electromagnetic interaction - the lower the momentum of a particle, the easier it scatters</li> </ul>
	<b>photoelectron</b> 	<ul style="list-style-type: none"> <li>- Photoelectrons are low energy electrons set free by high energy photons (via Photoelectric effect)</li> <li>- Source: beta emitters, photoelectric effect</li> </ul>
	<b>muon transformation</b> 	Kinks: This could be a muon transforming into an electron and two neutrinos!
Y	<b>electron-muon-scattering</b> 	Y-shape: This could be a muon knocking off an electron (bound to an atom) via electromagnetic scattering.