

R&D for ultra-low background sensor planes

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The DarkSide-20k experiment at the LNGS and the NEXT experiment at the LSC are two strikingly close examples of the technology of noble-gas optical TPCs applied to rare searches. Both Dark-Side-20 (DS20) and the upgraded NEXT detector (NEXT2.0) require the detection of scintillation and electro-luminescence light with ultra-low background detection planes, deploying SiPMs mounted in ultra-low background substrates and read out by custom, low-background front-end electronics. We hereby propose a joint R&D effort to study synergetic solutions for the development of the DarkSide-20k and NEXT2.0 sensor planes.

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