High-Temperature Resistant Co-encapsulated Photonics for BNP Paribas

SimTEC involves TGVs partially filled with copper and thermoelectric materials, ensuring thermal stabilization of photonic and electronic chips in the package. This novel technique ...

In a new paper published in Nature Photonics, researchers at Columbia Engineering have discovered that the thin-film metallic resistor routinely ...

In this paper we report on the design and performance of a silicon photonics micro-transceiver, which is designed to operate in harsh environments including high temperature ...

In this review, the key challenges associated with achieving robust electronic coupling, controlled doping, and accurate patterning of CQDs are comprehensively outlined, the reported ...

In a new paper published in Nature Photonics, researchers at Columbia Engineering have discovered that the thin-film metallic resistor routinely used to thermally tune photonic devices to the ...

Here we develop an encapsulated Co-Ni alloy catalyst using Sm2O3-doped CeO2 that exhibits an energy efficiency of 90% and a lifetime of more than 2,000 h at 1 A cm-2 for high ...

Abstract: Future high-performance applications require in-package optical modules to enable the high bandwidth requirements. This is enabled by the co-integration of a silicon photonics module with a ...

Co-packaged optics (CPO) technology offers a promising solution by integrating photonic integrated circuits (PICs) directly within or close to electronic integrated circuit (EIC) packages.

Using reflection spectroscopy measurements, we evaluate and compare the optical and polaritonic constituents of the TMD excitons in terms of oscillator strength, linewidth and negative permittivity. ...

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The choice of an appropriate modulator type must be a deliberate process while considering its co-optimization with the electrical driver. A holistic co-design approach is essential to meet target ...

In this perspective, we present a new approach to ultra-high temperature thermophotovoltaics (TPVs), which involves bilayer structures that combine the optical and thermal ...

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