Hospital-grade co-encapsulated photonics with high temperature resistance

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 ...

The report compares silicon photonics and emerging platforms, outlining key players and applications such as AI transceivers, co-packaged optics, and programmable photonics to forecast ...

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 ...

Co-packaged optics (CPO) is a disruptive approach to increasing the interconnecting bandwidth density and energy eficiency by dramatically shortening the electrical link length through advanced ...

Among the key players in this space, Henkel stands out with a broad portfolio of optical-grade adhesives, die attach films, capillary underfills, and ...

Apply NIST-developed photonics technology to the realization of new imaging methods, including multi-modal approaches, to improve disease detection and treatment, including reduction of ...

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The methodology provides a unified workflow to map temperature distributions into photonic performance models, enabling prediction of resonance drift, Q factor and bit error rate (BER) ...

Advancements in the field of biomedical optics have provided opportunities for developing more advanced technologies, particularly through integrating photonics with tissues, genetic ...

The device configuration in the present work, a graphene layer doubly encapsulated by hBN, provides us with a 2D electron gas (2DEG) that has high carrier mobility and low intrinsic ...

In this Account, we describe some of our efforts to encapsulate the guest molecules within MOFs to construct photonic functional materials.

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