JUMP INTO SPACE NEWSLETTER

www.www.jumpintospace.eu



About the project

The exponential growth of satellite launches and, in general, of in-orbit activities calls for technological breakthroughs in cost-effective solar energy harvesting technologies for Space deployment.

JUMP INTO SPACE envisions a high-efficient, lightweight and flexible, stable and sustainable alternative to currently available photovoltaic systems for in-space energy harvesting, via an unexplored synergetic coupling of groundbreaking concepts.

All-perovskite tandem solar cells, based on advanced contact materials and finely tuned perovskite absorbers, will be developed to ensure high efficiency (30% at AMO targeted here, but capable of overcoming the single-junction Shockley-Queisser limit).

The devices will be endowed with a pioneering, lightweight and flexible, multi-purpose photonic substrate, designed and optimized to embody the dual function of environment shielding and light management boost, while being remarkably stable against high-energy radiation and atomic oxygen erosion.

The optimized all-perovskite tandem solar cells will be manufactured on the multi-purpose photonic substrates and thoroughly tested to deliver unprecedentedly high specific power and prove

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their stability for Space operation in low-orbit conditions.

JUMP INTO SPACE solar cells will be gamechangers for the next generation of Space Solar Power, e.g. allowing lightweight stowing in rollable platforms, for powering novel propulsion apparatus for in-space mobility and a wide range of spacecrafts and applications e.g. systems for active debris removal, micro- and cube-sats.

They could also be deployed in Space-Based Solar Power plants and, through novel, properly designed transmission technologies, power various in-space applications, such as Moon or Mars human bases, or even provide Earth with continuous energy from space.



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EIC Space Portfolio KO meeting - 28-29 October 2024, Brussels Project KO meeting - 14 November 2024, Rome

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EIC Space Portfolio KO meeting

JUMP INTO SPACE partecipated in the Kick-Off meeting of the EIC Pathfinder Space Portfolio in Brussels, on 28 and 29 October 2024.

JUMP coordinator, Prof Brunetti from Tor Vergata University of Rome, has been appointed as the lead of the Work Group on Solar Energy (WGI).

Project KO meeting

Our consortium met in Rome back in November for the project's Kick-Off meeting. Hosted by the coordinator, Prof Francesca Brunetti as the PI for University of Rome, the partners got to spend time together planning the activities to be done in the following months

we are online!

JUMP INTO SPACE website is online! <u>https://www.jumpintospace.eu/</u> Twitter/X , Bluesky and LinkedIn accounts are also active. All these social media will be used to inform the academic community, industries, stakeholders and the general public about progress and outcomes of the project. Don't miss out any news, follow us!

Bluesky: <u>@jumpintospaceeueic.bsky.social</u>
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