

N	Title – Summary	Synopsis	Publication
1	<p><u>Exposing Nuclear Magic</u> Calculations show how the mysterious “magic numbers” that stabilize nuclear structures emerge naturally from nuclear forces—once these are described with appropriate spatial resolution.</p>	01_Exposing_Nuclear_Magic.pdf	01_PhysRevLett_136_052501.pdf
2	<p><u>Making Fresh Radionuclides with Leftover Gamma Rays</u> Photons in high-energy probe beams that pass through their intended target can be “reused” for making promising nuclides in nuclear medicine, new experiments show.</p>	02_Making_Fresh_Radionuclides.pdf	02_PhysRevC_112_054603.pdf
3	<p><u>Positron Emission Tomography Could Be Aided by Entanglement</u> The quantum entanglement of photons used in positron emission tomography (PET) scans has been shown to be surprisingly robust, opening prospects for developing quantum-enhanced PET schemes.</p>	03_PET_Aided_by_Entanglement.pdf	03_PhysRevLett_133_132502.pdf
4	<p><u>How Does a Nucleus Get Its Shape?</u> A new computational method could help scientists understand the shapes of deformed nuclei from first principles.</p>	04_How_Does_a_Nucleus_Get_its_Shape.pdf	04_PhysRevX_15_011028.pdf
5	<p><u>Short-Lived Superheavy Nucleus Uncovered</u> The discovery of an isotope, rutherfordium-252, whose ground state forestalls fission for just 60 nanoseconds, could help theorists understand the cosmic synthesis of superheavy elements.</p>	05_Short-Lived_Superheavy_Nucleus.pdf	05_PhysRevLett_134_022501.pdf
6	<p><u>A Route Toward the Island of Stability</u> Scientists have synthesized an isotope of the superheavy element livermorium using a novel fusion reaction. The result paves the way for the discovery of new chemical elements.</p>	06_Towards_the_Island_of_Stability.pdf	06_PhysRevLett.133_172502.pdf