'Japonium' said to be heaviest element

Presmuably that there is no limit given the right tools.

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Japanese scientists say they have created a new element that is heavier than any known element, a find that may be the most significant in the field since the heaviest known element was discovered in Germany in 1996.

If confirmed, the new element, whose atomic number is 113, will be the first man-made element created by Japanese, said Kosuke Morita and his team at the Institute of Physical and Chemical Research.

The team will have the right to name the element in the periodic table, and "japonium" is a candidate name.

The heaviest element existing in nature is uranium, whose atomic number is 92. All heavier elements have been produced artificially and numbered according to how many protons are in their nuclei. From 1940 to 1996, elements numbered up to 112 were created.

Russian scientists earlier said they had created elements 113 and 115, but the discovery remains to be confirmed internationally.

The Japanese team has tried to create element 113 by using a cyclotron to bombard the atoms of bismuth, number 83, with those of zinc, number 30. On July 23, after the cyclotron bombarded a bismuth atom target with 2.5 trillion zinc atoms per second for 80 days, the team found the new element, which disintegrated in only 0.3 millisecond. The element's atomic mass number is 278, meaning its nucleus has 113 protons and 165 neutrons.