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### **The nuclei of atoms in Periods 4, 5, 6 and 7**

Abstract. In my previous paper on “ The nucleus of an atom and the periodicity of the elements” I showed that the nucleus of an atom represented by neutron–proton units in the form of truncated tetrahedra could be assembled to show the periodicity of elements as suggested by Mendeleev.<sup>1</sup> The concept was simple for Periods 1, 2 and 3 (namely all the elements from hydrogen to argon). Periods 4 and 5 had the added complexity of the ten transition elements and Period 6 had even more complexity with not only ten transition elements but also fourteen rare-earth elements. The following notes on Periods 4, 5 and 6 show that the nuclei of these elements can be extensions of the octahedral structure of the nuclei of atoms. Period 7, of which we have only a few examples on Earth, actinium to americium, can follow the same building up of 48 neutron–proton units over the large radon nucleus to the next inert gas element with atomic number 134.

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