The oldest rocks and zircons in China

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Anshan City is one of a few areas in the world where ≥3.8 Ga continental rocks have been identified (Liu *et al.* 1992, 2007; Song *et al.* 1996; Wan *et al.* 2005). They occur in volumetrically small amounts in the Baijiafen, Dongshan and Shengousi complexes and consist of banded trondhjemite, mylonitized trondhjemite and meta-quartz diorite. The trondhjemitic rocks are high in SiO_2 and low in total REE, in contrast to those elsewhere in the world. The quartz diorites have compositions indicating formation by melting of metasomtised mantle rather than purely slab melting. Many 3.6-3.7 Ga rocks and zircons have also been found in the Anshan area. The Hf isotopes of the zircons indicate that Anshan mantle addition and continental formation happened episodically from 3.8 to 3.6 Ga. Besides Anshan, ≥3.6 Ga ages of zircons from different kinds of rocks in many areas of China have also been obtained, although most of them are detrital and inherited in origin. 1) 3.85-3.55 Ga detrital zircons from Archaean fuchsite quartzite in eastern Hebei, North China Craton (NCC) (Liu *et al.* 1992); 2) 3.66 Ga magmatic zircons from felsic granulite xenoliths in Mesozoic volcanic rocks in Xinyang, NCC (Zheng *et al.* 2004); 3) 3.80 Ga detrital zircon (one grain) from Neoproterozoic sandstone in Yichang of the Yangtze Block, South China Craton (SCC) (Zhang *et al.* 2006); 4) 3.76-3.6 Ga detrital zircons from Neoproterozoic-Palaeozoic meta-sedimentary rocks in the Cathaysia Block, SCC (Yu *et al.* 2007; Wan *et al.* 2007); 5) 3.6 Ga inherited zircons from a Palaeoproterozoic gneissic granite in Altyn Tagh, Tarim Block, northwest of china (Li *et al.* 2001; Lu *et al.* 2003). 6) One 4.08 Ga inherited zircon from an Ordovician meat-volcanic rock in Zhangjiazhuang, west of northern Qinling orogen (Wang *et al.* 2007); 7) One 4.10 Ga detrital zircon (with 3.61 Ga rim) from an Ordovician quartzite in Pulan, Tibet (Wen *et al.* 2007; Duo *et al.* 2007). The proportion of >3.6 Ga crustal materials in China has been underestimated and there are new possibilities for finding Hadean and Eoarchean materials to constrain early terrestrial evolution.

Water resources system of the Changjiang River Delta in China

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Water resources system is a complicated large system, which contains certain regional background, as well as specific framework, function and dynamic balance. The Changjiang River Delta is a very important area in China. As the local water resources are concerned, the Delta is an area lack of water as a matter of fact. The water resources system of the Delta experiences a long, intricate and degenerate period. The lacking of water due to resources shortage in 1950's changes into that due to water quality from 1980's. Furthermore the status of water shortage sharpens gradually. The representations are summarized as follows: firstly, the discharge amount of wastewater and polluted water is large all along. Secondly, the pollution status of rivers, which involve the Changjiang River, the Grand Canal, the rivers in city and the rivers in small towns and villages, is noticeable. Thirdly, water quality of Taihu Lake is worth of more attention. Therefore, the countermeasures on the reconditioning and regulating of water resources system in the Delta demands the following new strategies, such as to treat the rivers, the lakes and the seas as an overall system, to improve, harmonize and counterpoise water resources system carrying capacity, to implement the integrated management of water resources, which means the integrated management of drainage area along with the regional area, especially the integrated management of city water, and to carry on water saving and scientific using to increase the efficiency of water use, and so on. Consequently, human can coexist with water harmoniously in the Delta. And the objective to ensure the sustainable social and economic development with the sustainable usage of water resources can be implemented.