Development of high speed X-ray CT system

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In SPring-8, micro-tomography system has been achieved a spatial resolution about 1um. It is useful for analysis of metallic and/or ceramics materials in three-dimension. However, the measurement time is restricted more than one-hour by full frame transfer type CCD camera. Therefore, the system is not suitable for soft materials such as moved or deformed during measurement. If the measurement can be done much faster, the micro-tomography becomes a very useful tool for three-dimensional analysis.

In this study the full frame transfer type CCD camera (Hamamatsu, C4880-10-14A) has been changed to interline transfer type CCD camera (Hamamatsu, C4880-41S) to make faster system. The experiments were done at BL20B2, BL38B1 and BL47XU. The faster system can be done within 15 to 30 minutes for whole measurement. And the reduction of the spatial resolution has been avoided by increase of the number of projection images.

At the conference, the specification of the system will be presented.