

### Development of basic technology for ultra-realistic TV

#### -- Performance advances to enable a “real” image generation at any viewpoints --

KDDI R&D Labs has developed a novel technology to realize a free viewpoint video based on “space dividing ray-space method”. The goal of this technology is to enable audiences of TV program to choose their own viewpoints. For example, people can see a soccer game from the viewpoint of player on the ground, where TV camera cannot be mounted. Besides, the viewpoint can fly into the phalanx of players (“walk-through”).

The technology is a kind of image based rendering with a novel approach “space dividing ray-space”. The 3D space is divided into small subspaces to generate a “local ray-space”, and the scene is regenerated using locally generated images. This approach is the key to achieve the walk-through scene generation, since flying into the phalanx means the subspace selection inside the eyesight.

KDDI R&D Labs will seek a video production application in which a video producer can present a vivid scene that has never filmed before. The scene can be provided using the current broadcasting system as a 2D image, while 3D data broadcasting for full free viewpoint is for a future work.

