

Comparing ITV Definitions From 4D CT-PET and Breath-Hold Technique with Abdominal Compression

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Abstract : In this work, we compare the contour of Internal Target Volume (ITV), for Stereotactic Body Radiation Therapy (SBRT) of a patient affected by a single liver metastasis, obtained from two different patient data acquisition techniques. The first technique consists in a free breathing Computer Tomography (CT) scan acquisition, followed by exhalation breath-hold and inhalation breath-hold CT scans, all of them applying abdominal compression while the second technique consists in a free breathing 4D CT-PET (Positron Emission Tomography) scan. Results obtained with these two methods are consistent, which demonstrate that at least for this specific case, both techniques are adequate for ITV contouring in SBRT treatments.

Keywords : 4D CT-PET, abdominal compression, ITV, SBRT

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