## International Symposium on Digital Industrial Radiology and Computed Tomography - Poster 1

Enhancing the photon flux with helical CT B.Illerhaus, AChr. Paschold, BAM Bundesanstalt für Materialforschung und -prüfung, 12205 Berlin			
Abst Feldkamp[i] algorithm for back-projections of 2D shadowgrap the X-ray cone beam of a total of 15 degree. This gives a sour of 40cm square. Most CT systems do not obey this rule. To or There is a further obvious advantage when using the helical CT angle, we can shift the detector towards the source. By this wei detector distance. We compare measurements with 115/70m, 6 later one giving a photon flux enhancement of ~17. The secon source is the increasing transmission angle of the umoust rays: X-rays, there are more chances with wider opening angle. The 1 find a creak with the same opening in any direction in any poin not the case.	exact as into 3D computed tomograms has a limiting opening angle of es to detector distance of 150cm when using a standard detector recome this limitation helical CT is used also for industrial CT <sub>III</sub> serup. As ware no longer limited to the restricting opening nerease the photon flux with the reciprocal of the source form and 35sme distance between detector and source, the davantage of helical CT is the <i>aqualizing</i> of the chance to of the object. Using the standard Feldkamp algorithm this is share a standard Feldkamp algorithm this is statistical opening angle of 94°.		
	Spiral-CT	Feldkamp	
Total opening angle Source detector distance Enhancement factor	Aluminium foam cylinder 30m	Aluminium foam cylinder 30mm width, 50mm height. 0.3mm Cu transmission target	
33 <sup>0</sup> 1367mm 1			
62º 670mm 4.2			
94º 335mm 16.7			
	Helical scan: one spiral, one pixel step in height per angle step (1°)	Turn only scan: 360°, 1° angle step	
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