

X-ray method improves soft tissue detail

Swiss scientists say they've developed a technique for improving the detail obtained in X-ray images of soft tissues.

Franz Pfeiffer and colleagues at the Scherrer Institute in Villigen, Switzerland, say the technique works by extracting more information from the X-rays that pass through the tissue. Conventional X-ray imaging relies on the fact that different tissues of the body absorb radiation to different degrees.

The study appears in the April issue of the journal *Nature Physics*.

That, the researchers say, makes it relatively easy to distinguish the structure of bones and other dense bodies from surrounding tissues. But for soft tissues, which absorb less radiation and therefore produce less contrast in an X-ray image, discerning fine details becomes more difficult.

The scientists said they took advantage not only of how tissues absorb the X-rays, but of how much they slow their passage -- thereby changing the phase of the radiation that emerges from the other side.

Because of the sensitivity of the phase to even small variations in the composition of the tissue, the technique can greatly improve the contrast and clarity of the structures in the X-ray image.

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