Claims:

1. An apparatus for magnetic resonance imaging one or more structures included in a subject, the apparatus comprising:

one or more arrays of magnetic materials to generate well characterized magnetic field profile suitable for imaging over a region; and

an access aperture provided through the magnetic materials enabling intervention with the subject of the imaging,

wherein a magnetic field is provided on one side of the apparatus for imaging the subject at a distance from the apparatus,

wherein the apparatus is a single sided device for imaging one or more structures,

wherein the subject is a living animal or person, and

wherein at least some of the arrays of the magnetic materials generate magnetic fields in opposition to other materials in the one or more arrays.

2. The imaging apparatus of claim 1, wherein the apparatus is used to image the pelvic region of a subject.

3. The imaging apparatus of claim 1, wherein the magnetic resonance imaging system includes electro-permanent magnets.

4. The imaging apparatus of claim 1, wherein an axis of the access aperture is perpendicular to a face of the imaging apparatus.

5. The imaging apparatus of claim 1, wherein the one or more arrays of magnetic materials include at least one magnetizable component that is, at least in part, a hard-magnetic material and at least one magnetizable component that is, at least in part, of a soft-magnetic material.

6. A method of magnetic resonance imaging one or more structures that are at least part or a subject, the method comprising:

positioning an array of magnetic materials to generate well characterized magnetic field profile suitable for imaging over a region on one side of the one or more structures, the array having an access aperture through which intervention with the subject of

imagining is enabled; and

imaging the one or more structures using magnetic resonance imaging using the array of magnetic materials positioned on the one side of the one or more structures,

wherein the subject is a living animal or person,

wherein the magnetic field on the one side is used to image the subject that is at a distance from the apparatus, and

wherein at least some of the magnetic materials generate magnetic fields in opposition to other materials in the array.

7. The imaging method of claim 6, wherein the pelvic region of a subject is imagined.

8. The imaging method of claim 6, wherein an axis of the access aperture is perpendicular to a face of the imaging apparatus.

9. The imaging method of claim 6, wherein the one or more arrays of magnetic materials include at least one magnetizable component that is, at least in part, a hard-magnetic material and at least one magnetizable component that is, at least in part, of a soft-magnetic material.