



Centre for Metamaterial
Research and Innovation

EPSRC Centre for
Doctoral Training
in Metamaterials

XM^2



Engineering and
Physical Sciences
Research Council

The first of these is the *Journal of the Royal Society of Medicine*, which was founded in 1849 and is the oldest medical journal in the world. It was founded by a group of physicians who were dissatisfied with the *Lancet* and the *British Medical Journal*. The *Journal* was founded as a platform for the discussion of medical science and practice, and it has since become one of the most important journals in the field. It publishes a wide range of articles, including original research, reviews, and case reports. It is published by the Royal Society of Medicine, which is a learned society that represents the medical profession in the United Kingdom.

The second of these is the *British Medical Journal*, which was founded in 1847. It is one of the most influential medical journals in the world, and it is published by the British Medical Association. The *Journal* is known for its high standards of quality and for its commitment to the advancement of medical science. It publishes a wide range of articles, including original research, reviews, and case reports. It is published by the British Medical Association, which is a learned society that represents the medical profession in the United Kingdom.

The third of these is the *Lancet*, which was founded in 1823. It is one of the most influential medical journals in the world, and it is published by the Lancet Publishing Group. The *Lancet* is known for its high standards of quality and for its commitment to the advancement of medical science. It publishes a wide range of articles, including original research, reviews, and case reports. It is published by the Lancet Publishing Group, which is a learned society that represents the medical profession in the United Kingdom.

The fourth of these is the *New England Journal of Medicine*, which was founded in 1812. It is one of the most influential medical journals in the world, and it is published by the Massachusetts Medical Society. The *Journal* is known for its high standards of quality and for its commitment to the advancement of medical science. It publishes a wide range of articles, including original research, reviews, and case reports. It is published by the Massachusetts Medical Society, which is a learned society that represents the medical profession in the United States.

The fifth of these is the *Journal of the American Medical Association*, which was founded in 1901. It is one of the most influential medical journals in the world, and it is published by the American Medical Association. The *Journal* is known for its high standards of quality and for its commitment to the advancement of medical science. It publishes a wide range of articles, including original research, reviews, and case reports. It is published by the American Medical Association, which is a learned society that represents the medical profession in the United States.

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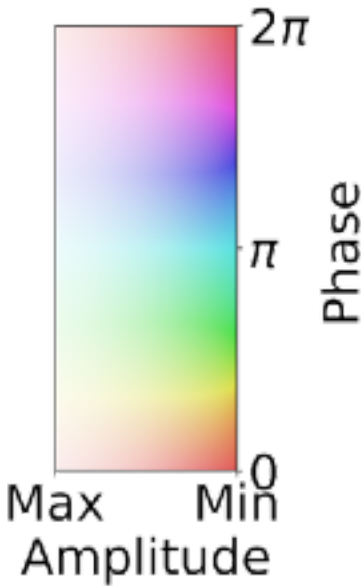
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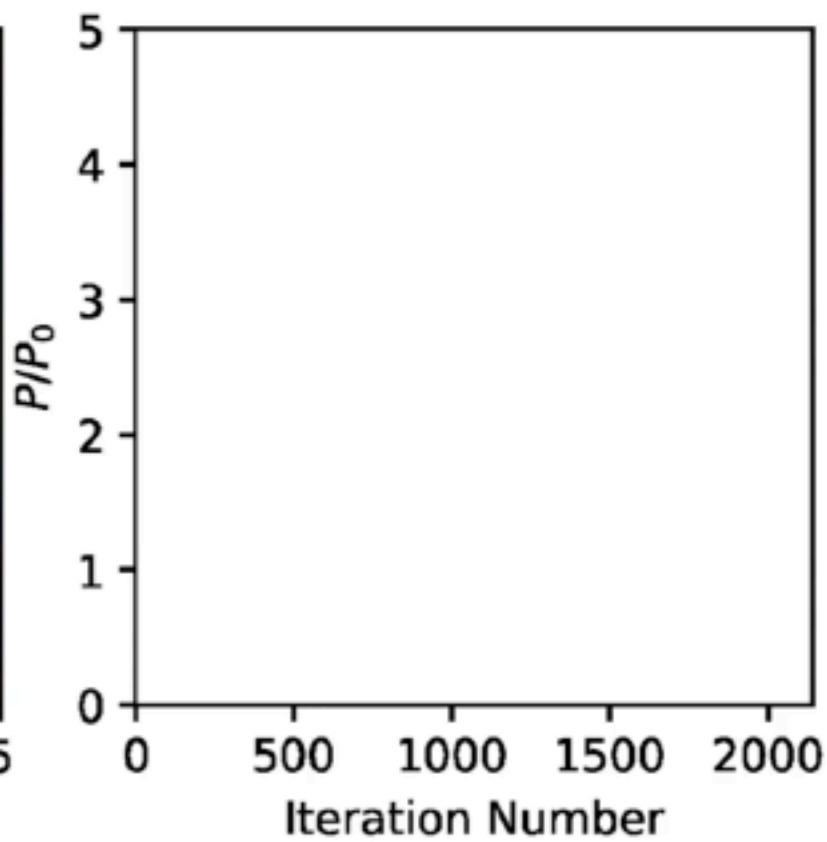
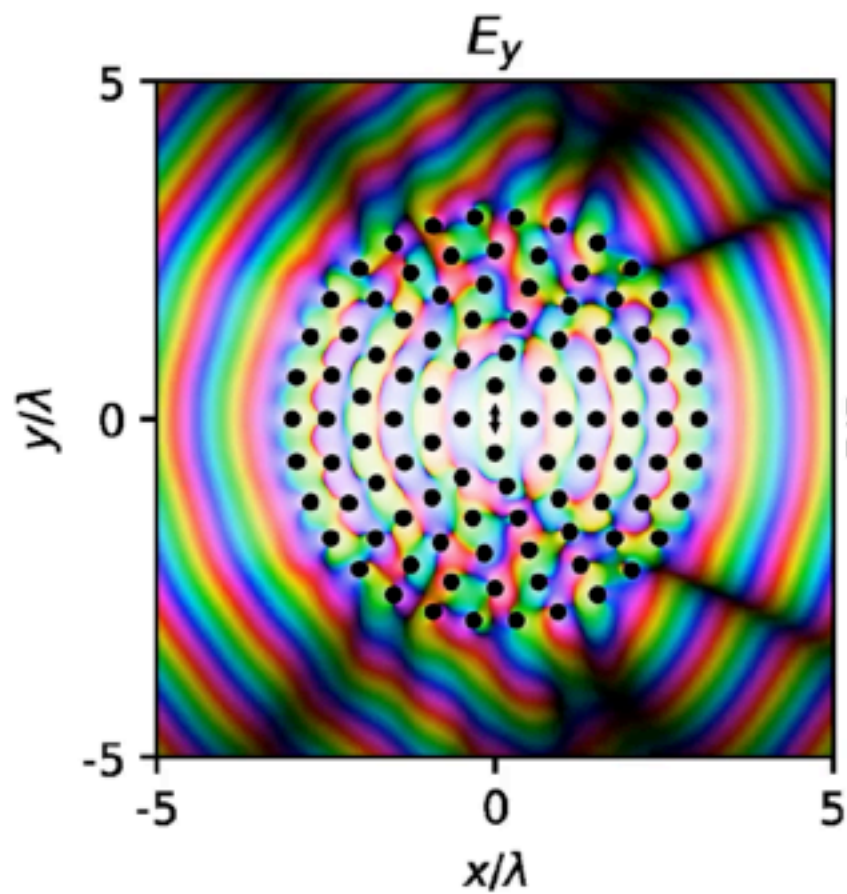
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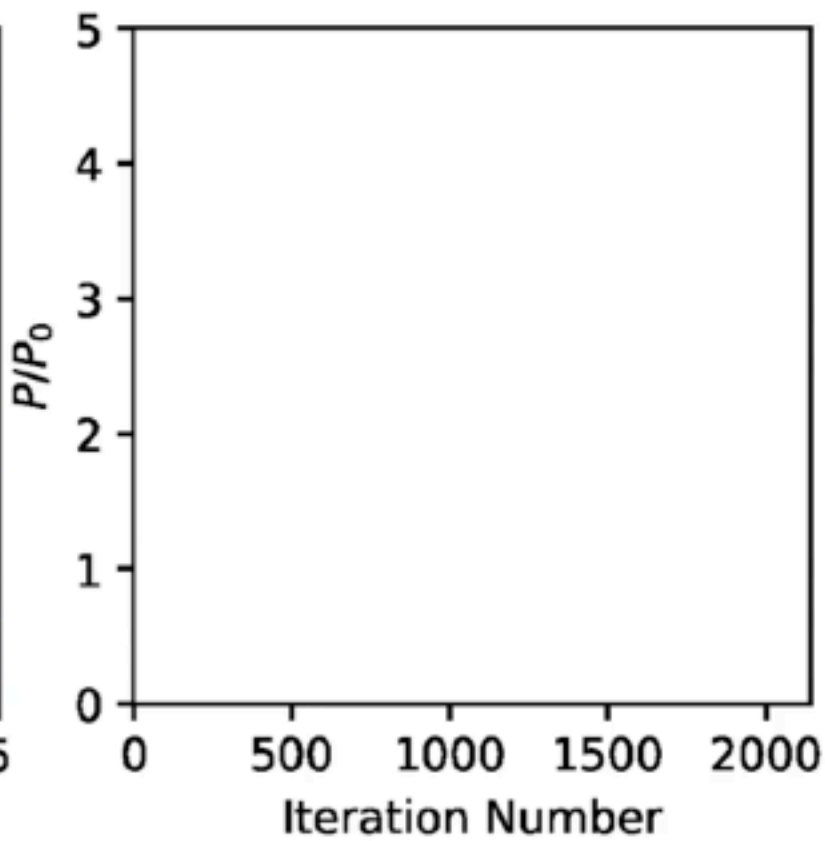
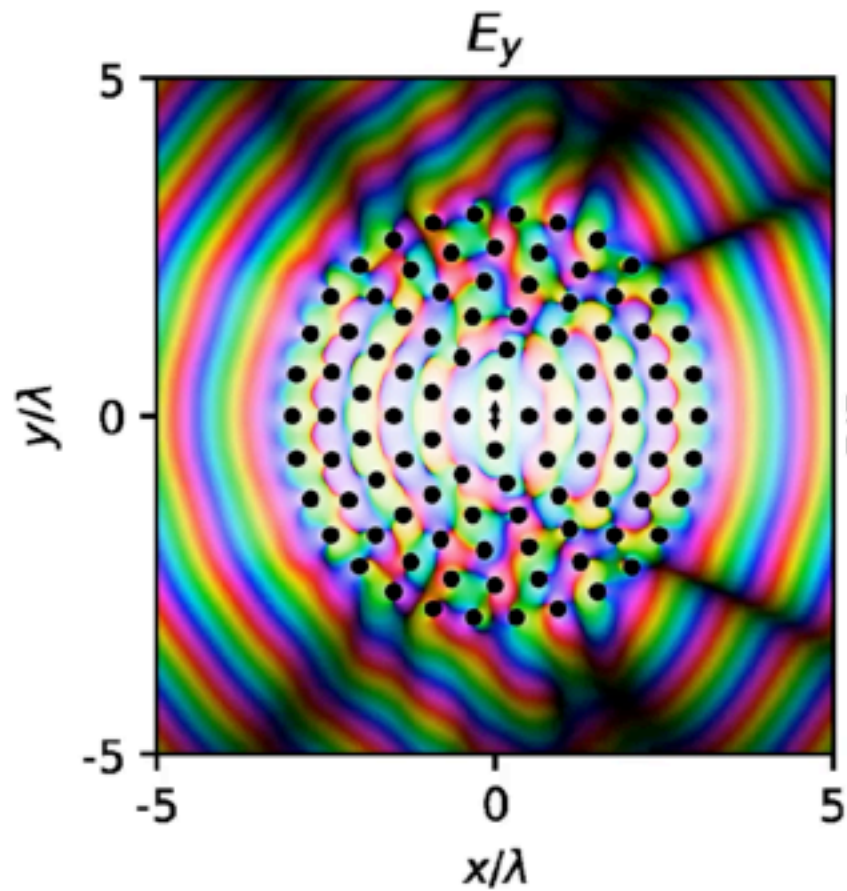
Optimising Power Emission

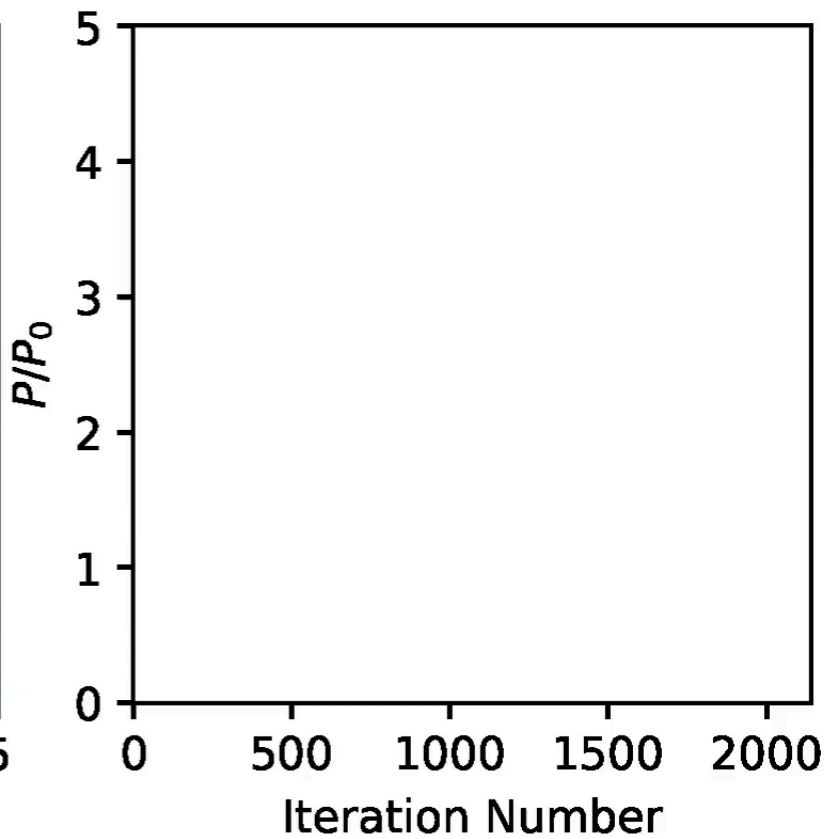
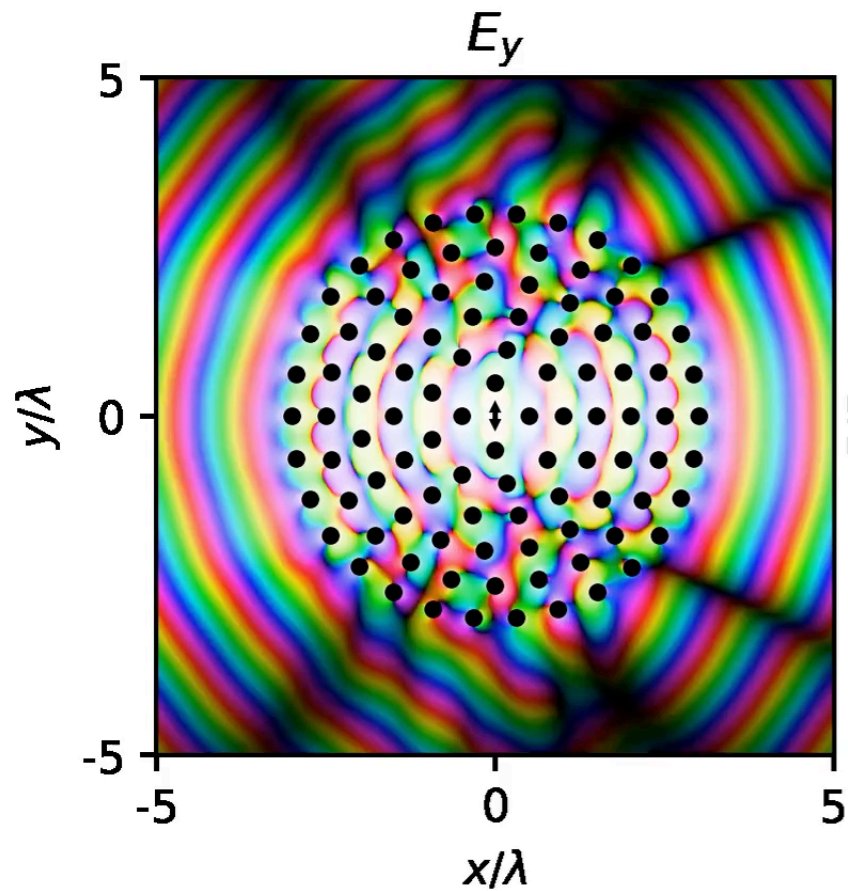






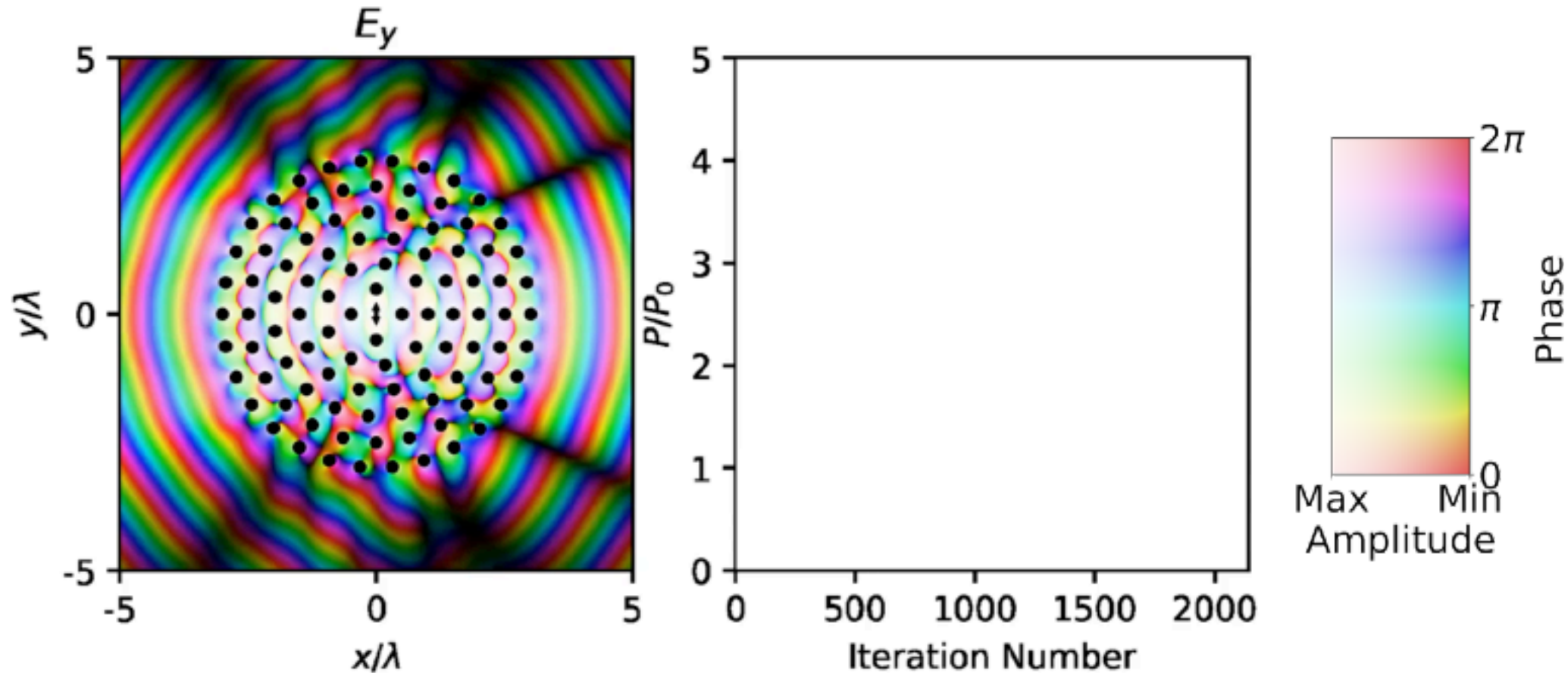
$$\delta P = \text{Im} \left\{ \mathbf{p}^* \cdot \left[\xi^2 \overset{\leftrightarrow}{\mathbf{G}}(\mathbf{r}', \mathbf{r}_n) \alpha_E \nabla \mathbf{E}(\mathbf{r}_n) + i \xi \nabla \times \overset{\leftrightarrow}{\mathbf{G}}(\mathbf{r}', \mathbf{r}_n) \alpha_H \nabla \mathbf{H}(\mathbf{r}_n) \right] \right\} \delta \mathbf{r}_n$$





Optimising Power Emission

$$\delta P = \text{Im} \left\{ \mathbf{p}^* \cdot \left[\xi^2 \vec{\mathbf{G}}(\mathbf{r}', \mathbf{r}_n) \alpha_E \nabla \mathbf{E}(\mathbf{r}_n) + i \xi \nabla \times \vec{\mathbf{G}}(\mathbf{r}', \mathbf{r}_n) \alpha_H \nabla \mathbf{H}(\mathbf{r}_n) \right] \right\} \delta \mathbf{r}_n$$



Directivity

$$\delta P = \text{Im} \left\{ \mathbf{p}^* \cdot \left[\xi^2 \vec{\mathbf{G}}(\mathbf{r}_t, \mathbf{r}_n) \alpha_E \nabla \mathbf{E}(\mathbf{r}_n) + i \xi \nabla \times \vec{\mathbf{G}}(\mathbf{r}_t, \mathbf{r}_n) \alpha_H \nabla \mathbf{H}(\mathbf{r}_n) \right] \right\} \delta \mathbf{r}_n$$

