



Centre for Metamaterial
Research and Innovation

EPSRC Centre for
Doctoral Training
in Metamaterials

XM^2



Engineering and
Physical Sciences
Research Council

The first part of the paper discusses the importance of the research and the objectives of the study. It then presents a literature review of the existing research on the topic. The second part of the paper describes the methodology used in the study, including the data collection and analysis techniques. The third part of the paper presents the results of the study, and the fourth part discusses the conclusions and implications of the findings.

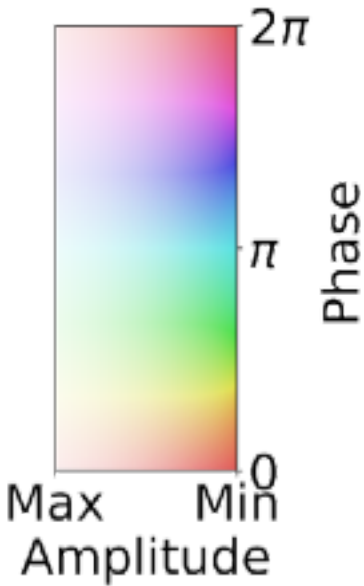
The research was conducted using a quantitative approach, and the data was collected from a sample of participants. The results of the study show that there is a significant relationship between the variables being studied. The findings have important implications for the field of research, and they provide valuable insights into the topic.

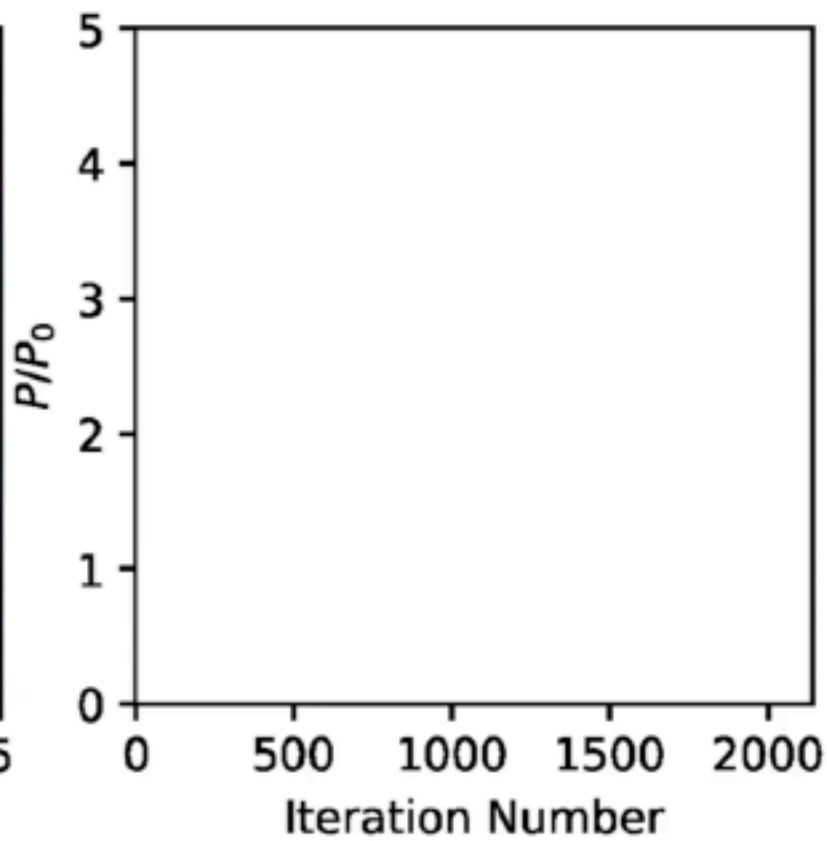
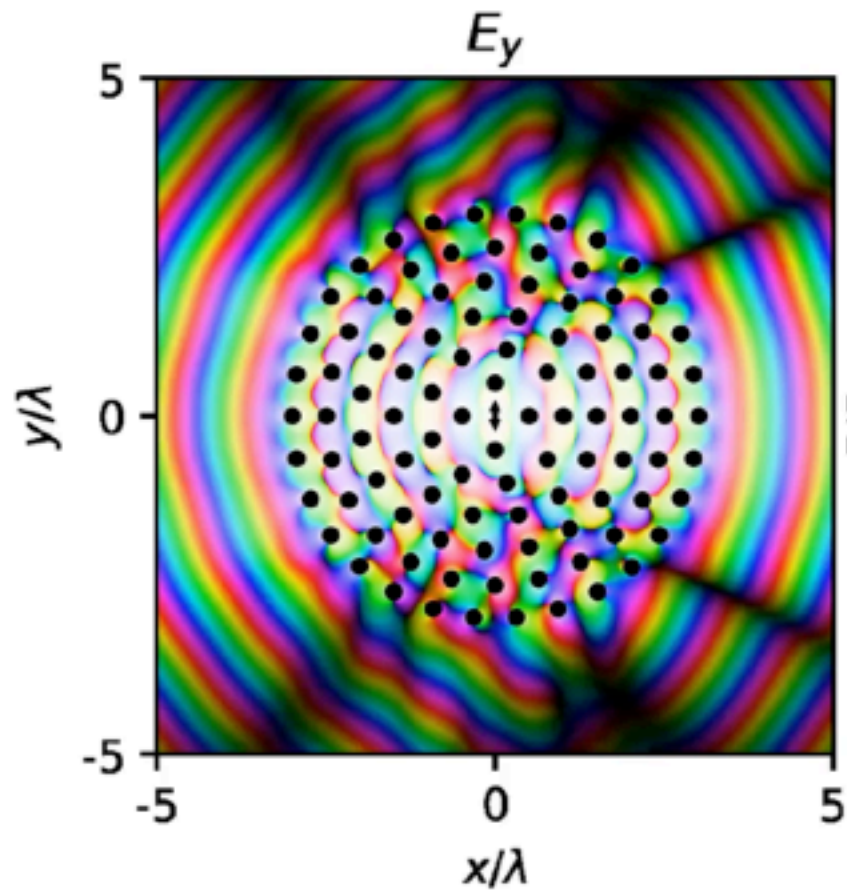
In conclusion, the study has shown that the research objectives have been achieved, and the findings are consistent with the hypotheses. The results of the study provide a clear understanding of the relationship between the variables, and they have important implications for the field of research.

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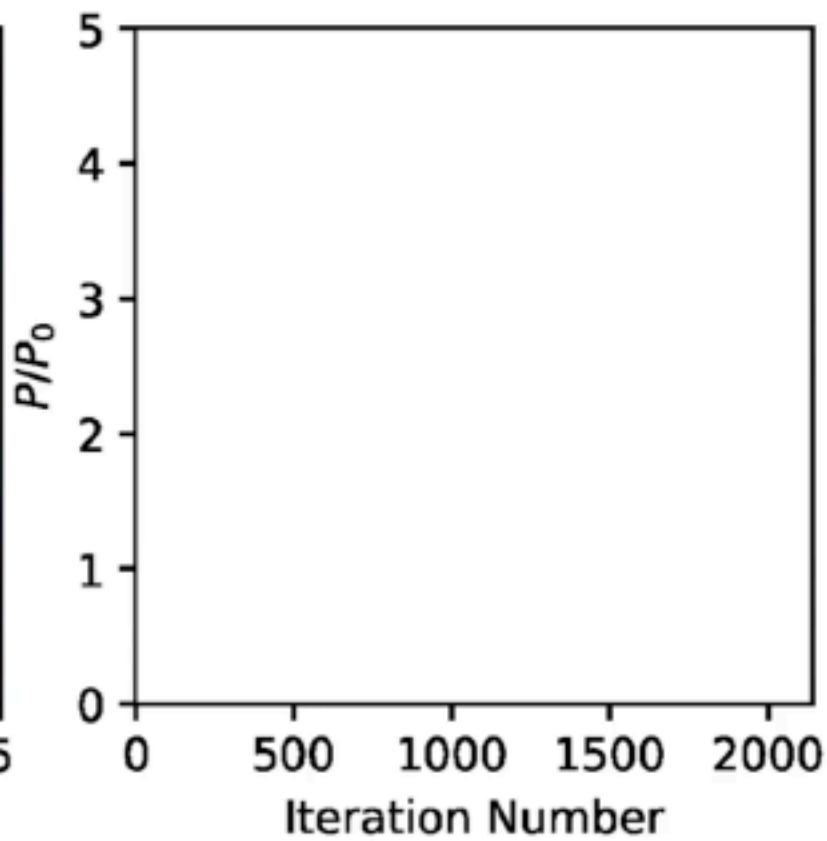
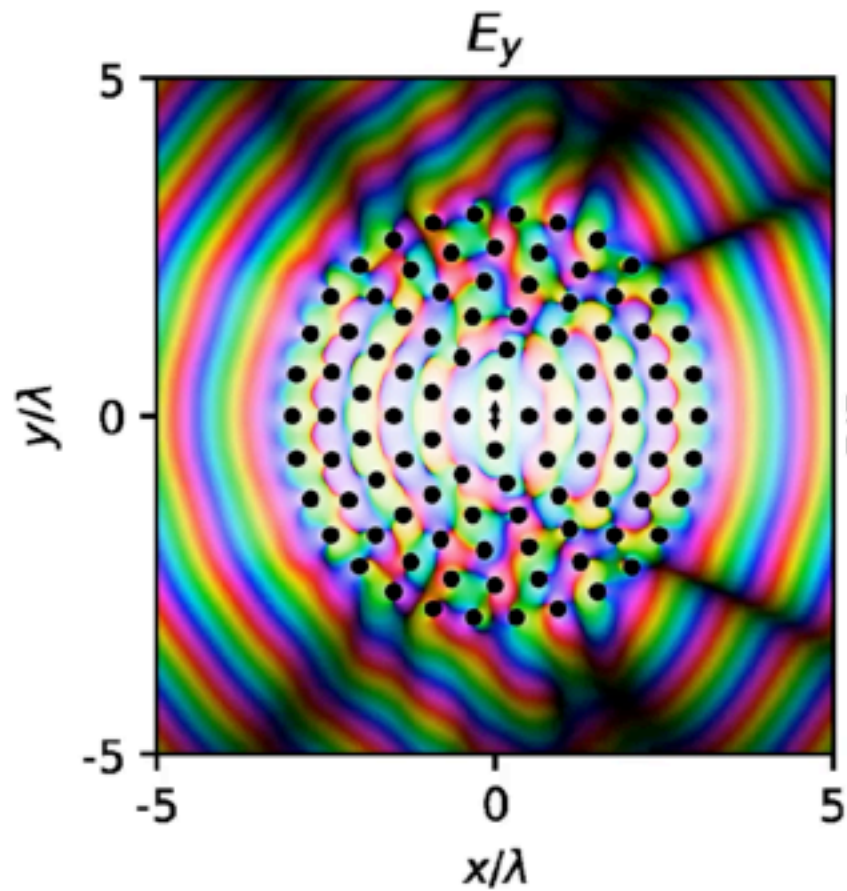
Optimising Power Emission

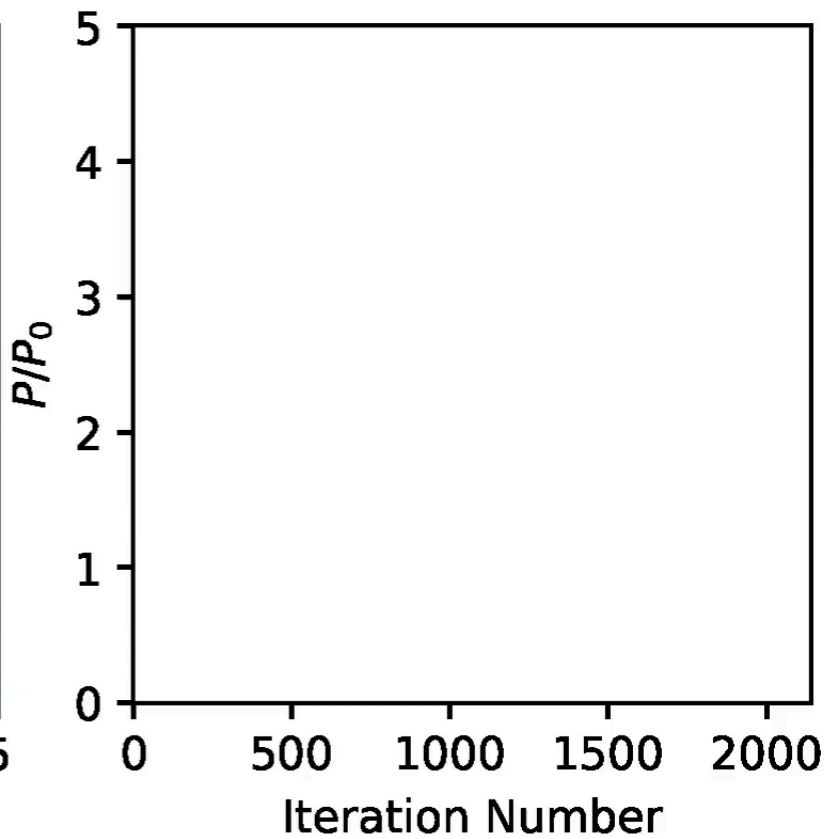
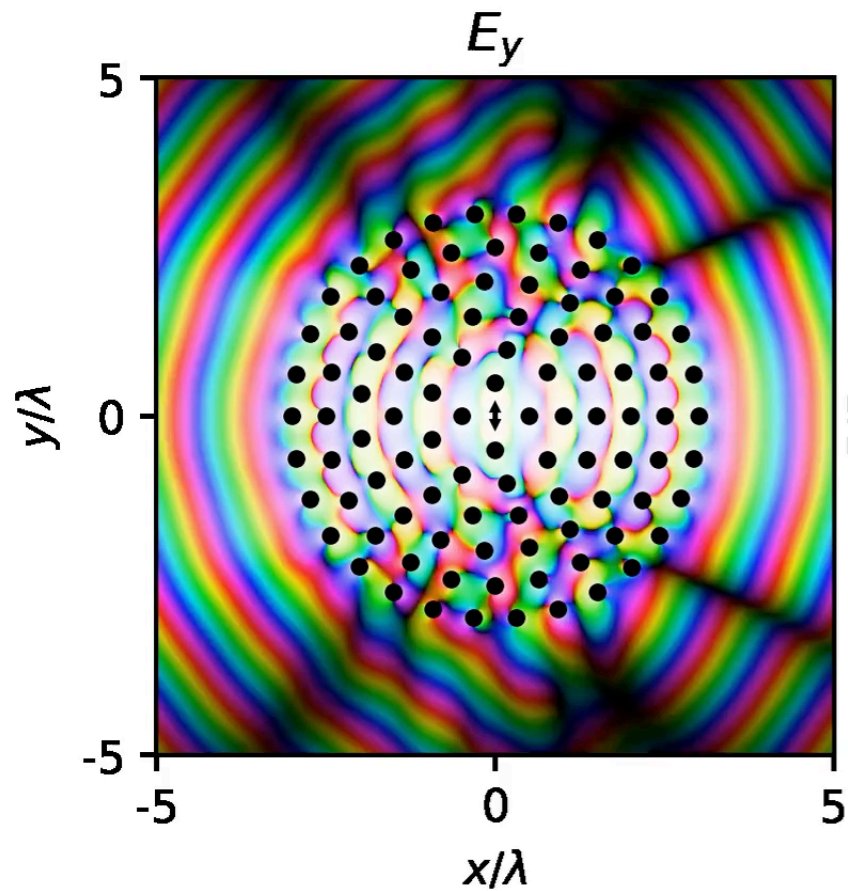






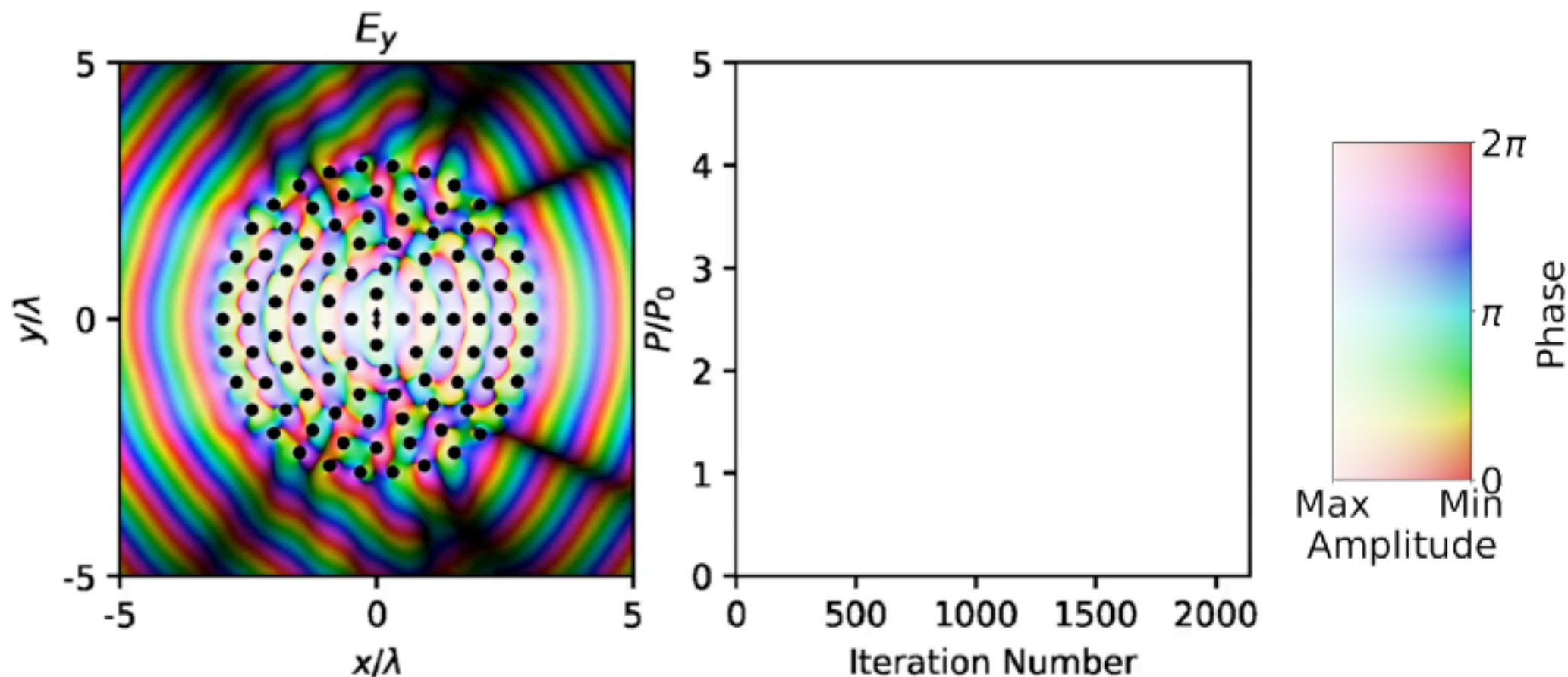
$$\delta P = \text{Im} \left\{ \mathbf{p}^* \cdot \left[\xi^2 \overset{\leftrightarrow}{\mathbf{G}}(\mathbf{r}', \mathbf{r}_n) \alpha_E \nabla \mathbf{E}(\mathbf{r}_n) + i \xi \nabla \times \overset{\leftrightarrow}{\mathbf{G}}(\mathbf{r}', \mathbf{r}_n) \alpha_H \nabla \mathbf{H}(\mathbf{r}_n) \right]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





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

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

