# Article information:

LCD-SLA 3D printing of BaTiO3 piezoelectric ceramics - ScienceDirect
<https://www.sciencedirect.com/science/article/pii/S0272884221022550>

# Article summary:

1. Additive manufacturing (AM) is becoming increasingly important in the advanced manufacturing industry, and ceramic 3D printing is one of the fastest-growing segments.

2. Piezoceramic materials can produce electrical energy from deformation under mechanical stress or when an electric potential is applied, and AM technologies offer advantages over traditional production methods for piezoelectric elements (PE).

3. Barium titanate (BT) is a promising lead-free material for 3D printing PE, and stereolithography (SLA) is one of the most promising methods for its production.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

该文章主要介绍了使用LCD-SLA 3D打印技术制造钛酸钡压电陶瓷的方法和优势。然而，该文章存在以下问题：

1. 偏重于技术细节而忽略了潜在的环境和健康风险。虽然文章提到了对铅及其氧化物的环境担忧，但没有提到其他可能存在的有害物质或制造过程中可能产生的废弃物。

2. 文章缺乏对其他3D打印技术和材料的比较分析，使读者难以评估LCD-SLA 3D打印技术在这个领域中的优势和局限性。

3. 文章未探讨制造成本、可持续性、生产效率等方面的问题，这些因素也是影响该技术在实际应用中成功与否的关键因素。

4. 文章没有提供足够的证据来支持其所述的优点和潜在应用。例如，在文中提到使用3D打印可以获得更复杂形状和更高性能，但并没有给出具体例子或数据来证明这一点。

5. 文章可能存在偏袒某些利益相关方或公司的情况。例如，文章引用了SmarTech的分析，但没有提到该公司是否与所述技术或材料有关。

综上所述，该文章虽然介绍了一种新的3D打印技术和材料，但缺乏全面的分析和证据来支持其主张。读者需要谨慎评估这种技术在实际应用中的可行性和风险。

# Topics for further research:

* Environmental and health risks of LCD-SLA 3D printing technology
* Comparison analysis of LCD-SLA 3D printing technology with other 3D printing technologies and materials
* Manufacturing cost
* sustainability
* and production efficiency of LCD-SLA 3D printing technology
* Evidence to support the claimed advantages and potential applications of LCD-SLA 3D printing technology
* Potential bias towards certain stakeholders or companies in the article
* Feasibility and risks of LCD-SLA 3D printing technology in practical applications

# Report location:

<https://www.fullpicture.app/item/990a0ef0bbbb79e8343c95931e96139c>