# Article information:

Toughening and Instability Phenomena in Quantized Fracture Process: Euclidean and Fractal Cracks | SpringerLink  
<https://link.springer.com/referenceworkentry/10.1007/978-3-030-60242-0_19>

# Article summary:

1. The differential equation governing motion of the subcritical crack predicts no stable crack growth and reduces to the classic case of Griffith when fracture occurs in an ideally brittle solid with a ductility index ρ = R/Δ → 1.

2. The δCOD criterion can be used to obtain the tearing modulus for quasi-brittle solids, and for an ideally brittle solid, the size of the Neuber particle Δ can be identified with the length of the cohesive zone.

3. The left-hand side of Eq. 51 can be written as f(α)ddX[(2YX)1−2α2αY], and with G denoting the right-hand side of Eq. 51, one has dYdX=2αGf(α)(2YX)12α−1+2α(1α−2)(YX)2X2Y.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

由于本文是一篇科学论文，其内容较为专业和技术性，因此难以对其进行批判性分析。然而，可以注意到该文章的作者并未提及任何潜在偏见或片面报道，并且使用了详细的数学公式和推导过程来支持其主张。此外，该文章还提供了附录和参考文献等信息，以便读者深入了解相关背景知识和研究成果。

需要指出的是，在科学研究中存在着可能的偏见和错误，因此读者应该保持批判性思维并审慎评估所阅读的内容。同时，科学家们也应该注意到可能存在的风险，并尽力避免任何不当行为或宣传内容。

# Topics for further research:

* Scientific bias and error
* Critical thinking in scientific research
* Risks in scientific research
* Ethical considerations in scientific communication
* Importance of transparency in scientific reporting
* Limitations of scientific knowledge and research

# Report location:

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