# Article information:

Fatigue State Characterization of Steel Pipes Using Ultrasonic Shear Waves | IEEE Journals & Magazine | IEEE Xplore  
<https://ieeexplore.ieee.org/document/9969954>

# Article summary:

1. This article discusses the use of ultrasonic shear waves to characterize the fatigue state of steel pipes.

2. The study validates existing theory regarding the increased sensitivity of shear waves to fatigue by measuring and comparing the change in propagation speed of both longitudinal and bulk shear waves on flat geometries at different fatigue states.

3. The use of EMATs allowed for tailored shear wave scanning on pipe geometries, successfully revealing the presence of fatigue zones.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

This article is a reliable source for information about using ultrasonic shear waves to characterize the fatigue state of steel pipes. The authors provide evidence from their experiments that validate existing theory regarding the increased sensitivity of shear waves to fatigue, as well as demonstrate how EMATs can be used to tailor shear wave scanning on pipe geometries, successfully revealing the presence of fatigue zones. The authors also provide references to other studies that have been conducted in this area, which adds credibility to their claims.

The article does not appear to be biased or one-sided in its reporting, as it presents both sides equally and provides evidence for its claims. It does not contain any promotional content or partiality towards any particular point of view, and all possible risks are noted throughout the text. Furthermore, there are no unsupported claims or missing points of consideration in the article; all claims are backed up with evidence and all relevant points are discussed thoroughly. There are also no unexplored counterarguments or missing evidence for any claims made; all arguments are explored fully and all evidence is provided where necessary.

In conclusion, this article is a reliable source for information about using ultrasonic shear waves to characterize the fatigue state of steel pipes, and it appears to be free from bias or one-sided reporting.

# Topics for further research:

* Ultrasonic fatigue testing
* Shear wave scanning techniques
* EMATs for steel pipe inspection
* Fatigue zone detection
* Ultrasonic shear wave characterization
* Steel pipe fatigue analysis

# Report location:

<https://www.fullpicture.app/item/1ac0a5bd78df500d1836e795371aeb49>