

Suggestions for reading fracture mechanics literature

Technical literature, including some of the papers we will discuss in class, can be difficult to understand. This can be because some terminology is new, the mathematics is hard or unfamiliar, or because the papers aren't written as clearly as they might be. Here are some suggestions to help you in reading and understanding technical papers.

- 1 Try to find (and keep!) the “big picture” in mind, and don't get bogged down in the details. Reading the abstract and the conclusions first, and then reading the rest of the paper, can be a helpful way to keep the big picture in focus.
- 2 Pay attention to the section titles.
- 3 Pay attention to mechanical fundamentals. In particular, pay attention to the reference frame being used, the geometry of the problem being addressed, and the boundary conditions. Look for a diagram in the paper that illustrates these features, and if you can't find one, draw one yourself.
- 4 You should be able to explain the figures in the papers. They commonly (but not always) are more informative than the equations, and they usually are included to address critical issues.
- 5 With the equations, pay attention to the dimensions of the quantities.
- 6 Highlight portions of a paper that strike you as especially important.