Applications:

TABLE 5.1. Applications of DMA and Structure-Property Characterization

Dynamic Mechanical Analysis

1. Detect transitions arising from molecular motions or relaxations
2. Determine mechanical properties, i.e., modulus and damping of viscoelastic materials over spectrum of time (frequency) and temperature
3. Develop structure–property or morphology relationships

Polymer Structure–Property Characterization

1. Glass transition
2. Secondary transitions
3. Crystallinity
4. Molecular mass/crosslinking
5. Phase separation (polymer blends, copolymers, polymer alloys)
6. Composites
7. Aging (physical and chemical)
8. Curing of networks
9. Orientation
10. Effect of additives (plasticizers, moisture)

Examples of applications: