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The impact of chain folding on the structure and morphology of polymer lamellae BERNARD LOTZ, Institut Charles Sadron, Strasbourg, INSTITUT CHARLES SADRON TEAM — The major structure and morphology features of polymer lamellae (and single crystals) are usually defined by the characteristics of the crystal lattice (cell geometry and symmetry, stem length). However, the fold surfaces that sandwich the crystalline core may have an impact on that crystalline core. In isotactic polyolefins, restrictions on the relative (up/down) orientation of stems linked by a fold may result in lowered unit-cell symmetry. Also, surface stresses linked with the presence of folds determine to a large extent the non-planar shape of polymer crystals. In bulk crystallization, they may induce twisted and/or scrolled lamellae. However, this impact can be inferred only for specific polymers and/or crystal structures and/or unit-cell symmetries. (Work performed with Dr. A. Thierry and J. Ruan.)

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