



高分子物理實驗室

Polymer Physics Laboratory

指導教授：林裕軒 老師

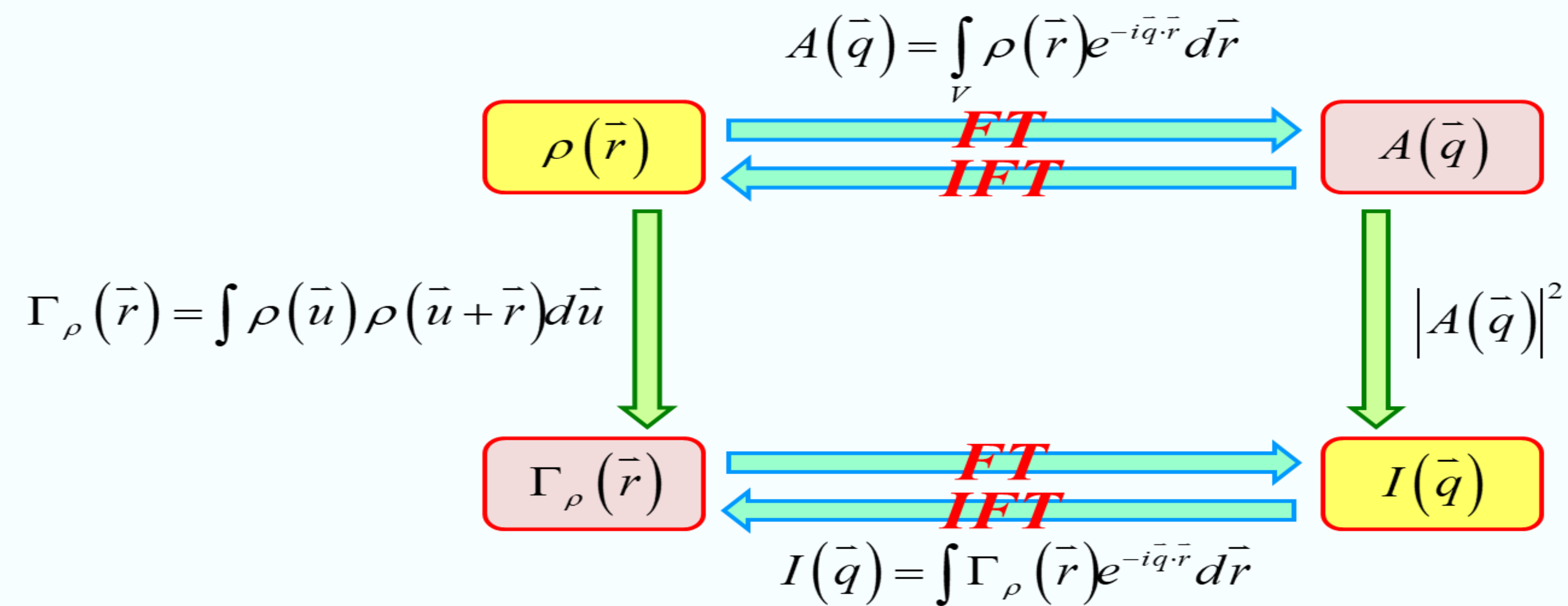
實驗室位置：A2-449 實驗室

Address : No. 2, Lien Da, Nan Shih Li, Miaoli 360302, Taiwan, R.O.C, TEL : 037-382188, FAX : 037-382189, linyh@nuu.edu.tw

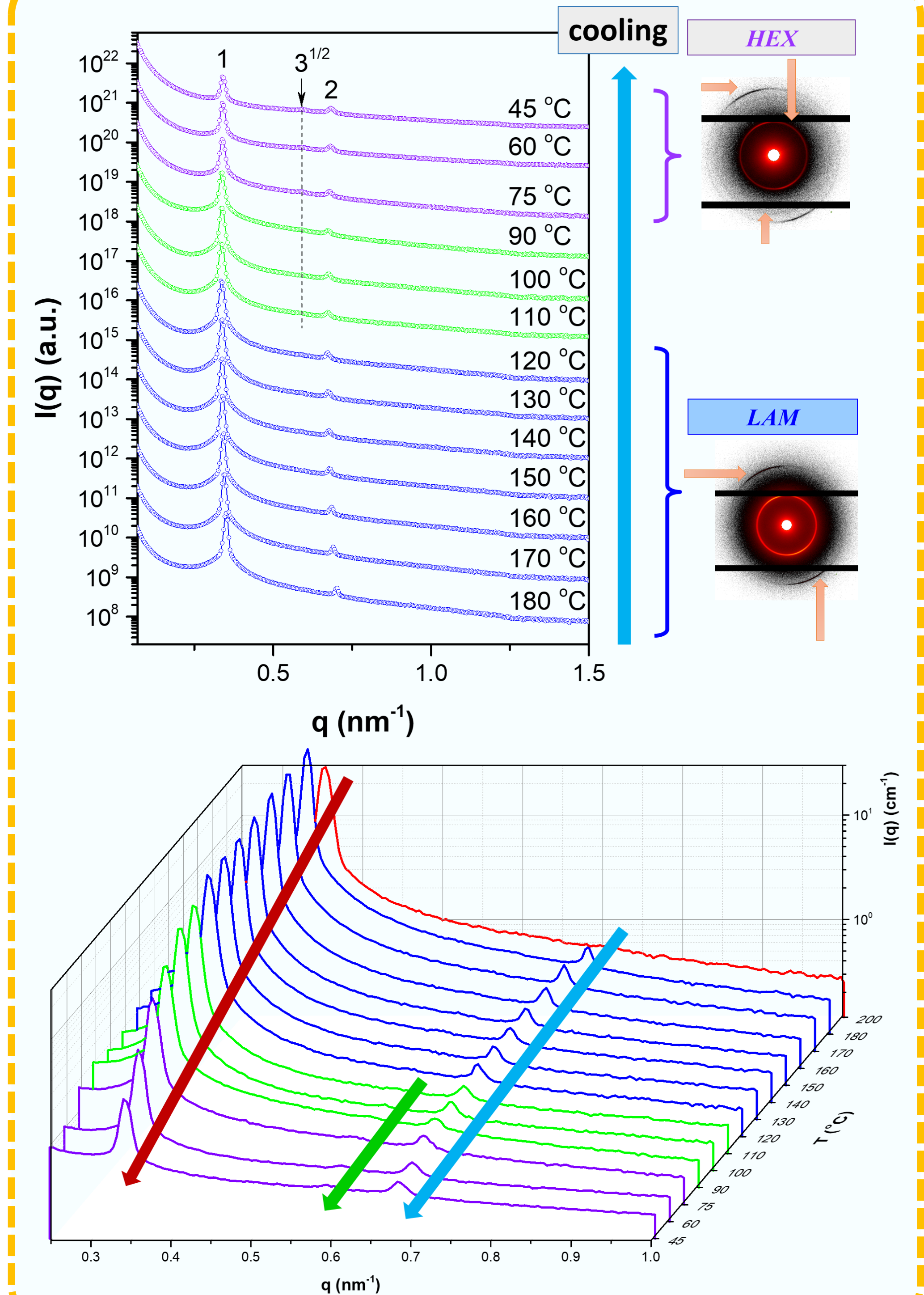
研究方向：高分子物理、高分子凝態結構與相變、小角度散射、高分子材料分析

小角度散射

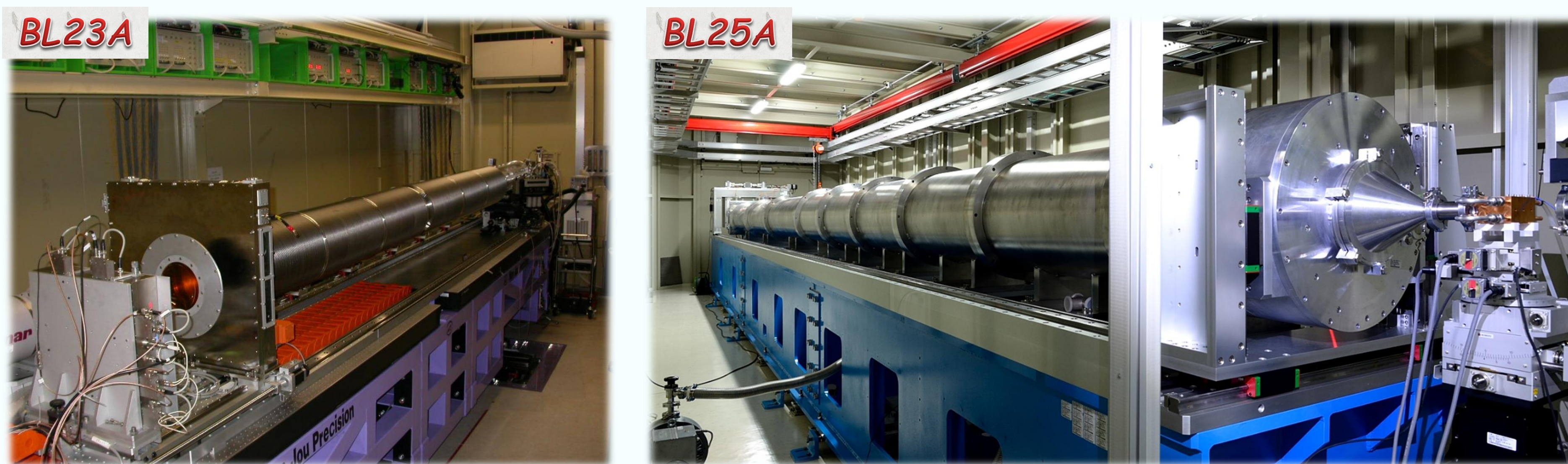
Relationships among $\rho(\vec{r})$, $\Gamma_\rho(\vec{r})$, $A(\vec{q})$, and $I(\vec{q})$



Temperature-dependent SAXS Profiles



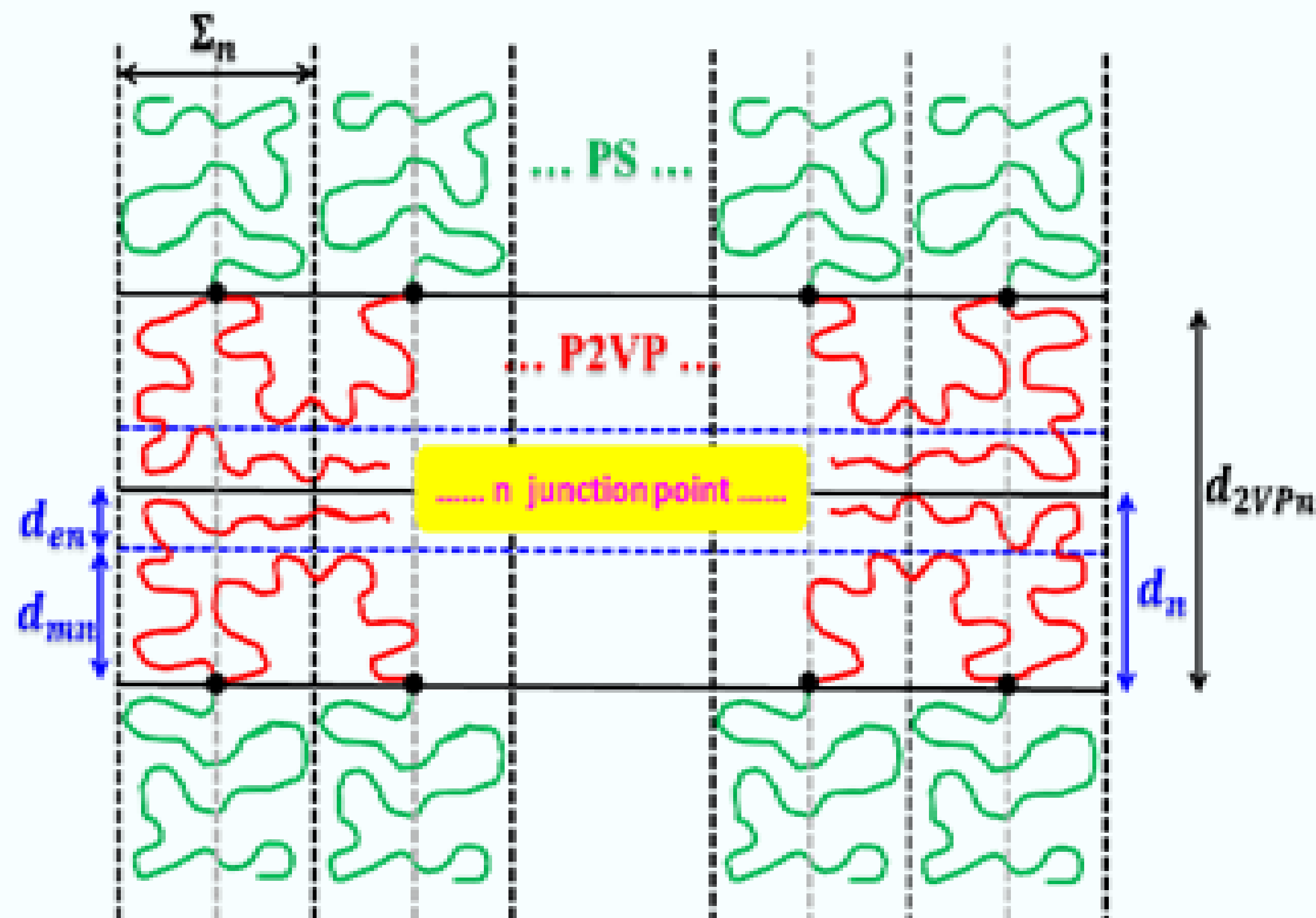
National Synchrotron Radiation Research Center, Taiwan (NSRRC)



高分子物理

Exact Graft Copolymer

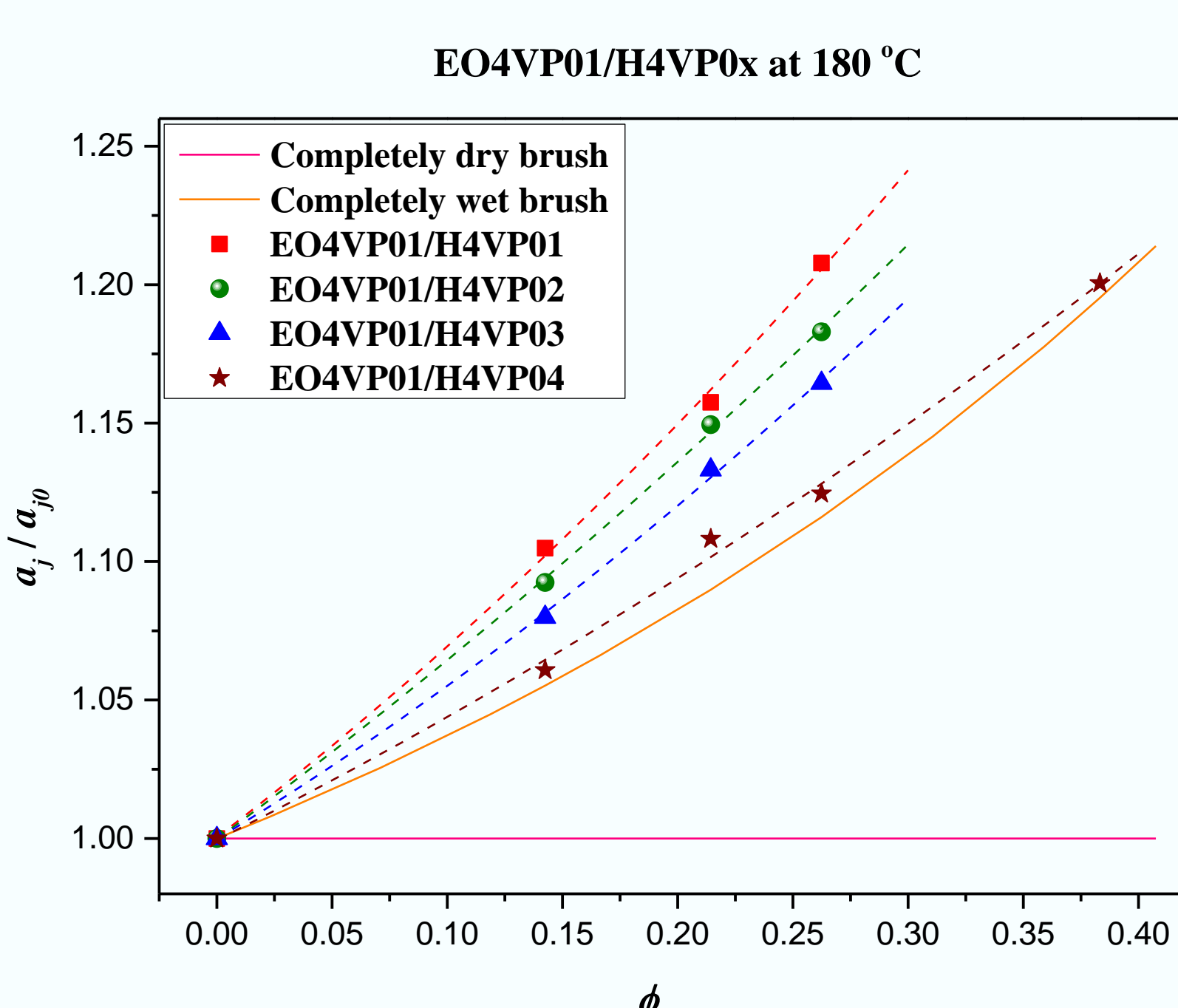
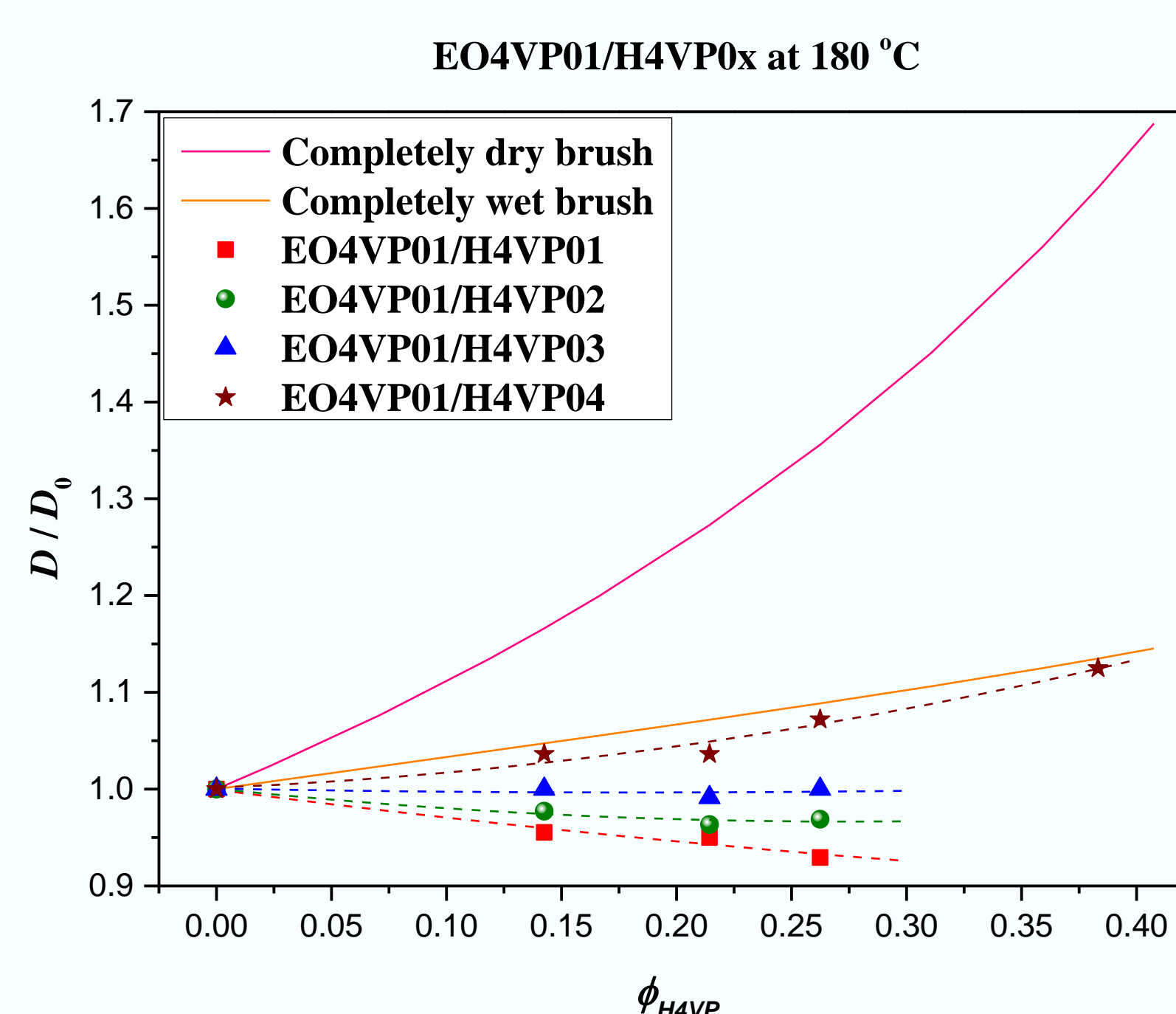
Proposed chain packing in the lamellar microdomain



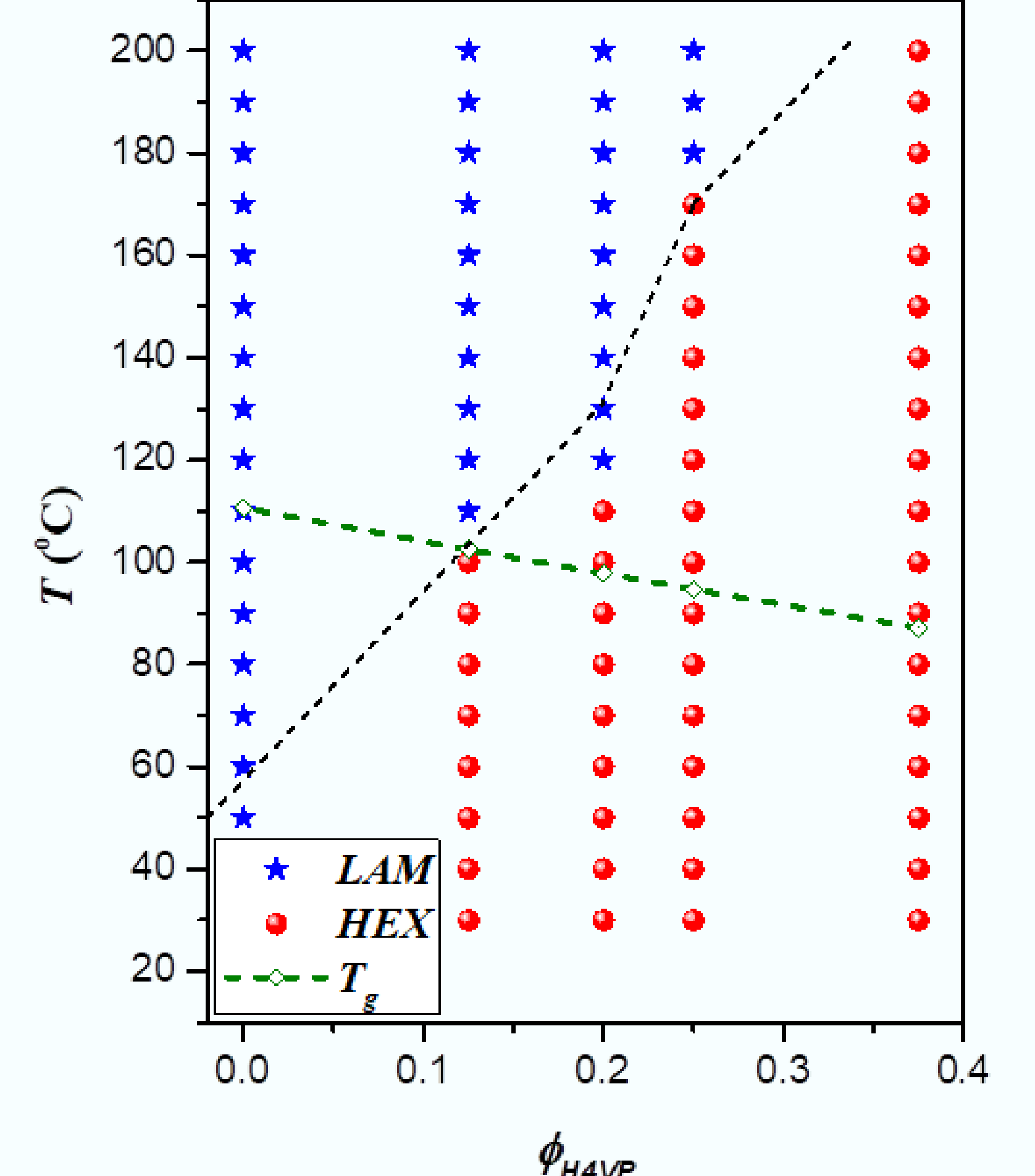
General expression of the domain spacing

$$D_{n,eq} = \left(\frac{\gamma_n}{\gamma_b} \right)^{\frac{1}{3}} (2n+1) \left\{ \frac{X^2}{16 \left[n^2 \left[(n-1) + \frac{1}{4} \left(\frac{n}{n+1} \right) \right] + \frac{(n+1)^2}{2} \right]} \right\}^{\frac{1}{3}} D_{b,eq}$$

Homopolymer in Its Blend with the Block Copolymer



Phase diagram



Normalized interdomain distance

$$\frac{D}{D_0} = \left(\frac{\gamma}{\gamma_0} \right)^{\frac{1}{3}} \left(\frac{f_A}{1 - \phi_{h-A}} + f_B \right) \frac{1}{\left[\frac{f_A}{(1 - \phi_{h-A})^2} + f_B \right]^{\frac{1}{3}}}$$