

Figure Caption

FIGURE 1: Summary of the three constraints to the initial misalignment angle θ_1 for $M_{14}^2/N = 1$. The first constraint follows from requiring that axions not “overclose” the Universe; the second from requiring θ_1 to be larger than the quantum fluctuations in θ_1 ; and the third from requiring that fluctuations in θ do not lead to excessive, large-angle fluctuations in the temperature of the CMBR. Each constraint divides the θ_1 - m_a plane into allowed (indicated by arrows) and forbidden regions.