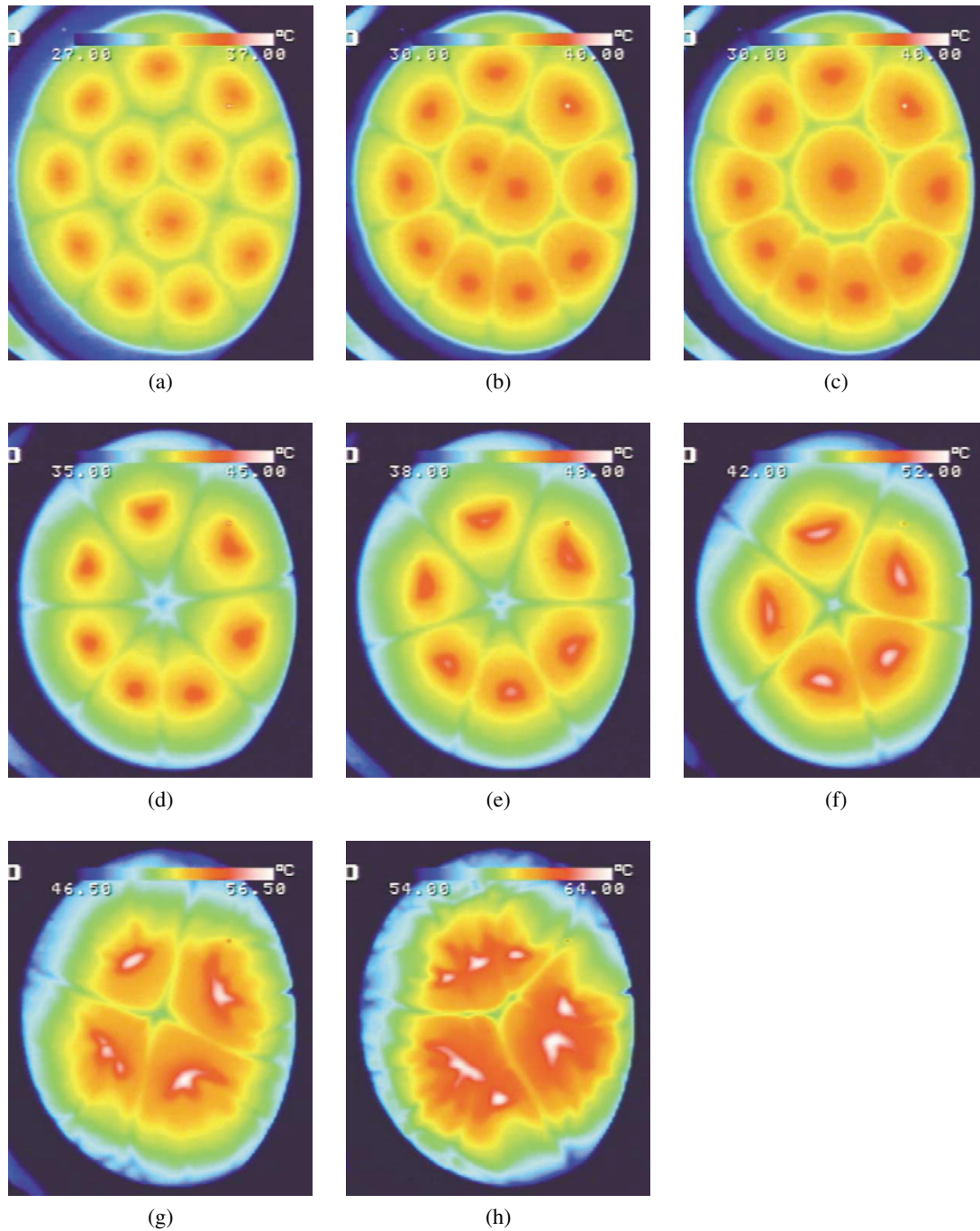


2. Benard-Marangoni Convection Patterns by Infrared Thermography

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These figures show interfacial temperature fields in a Benard-Marangoni convection with a 5mm silicone oil layer, $Pr = 206$, Biot number $L = 2.52$, obtained by infrared thermography. Pattern dynamics are observed when the gradient of temperature ΔT_p is increased from $\Delta T_p = 0^\circ\text{C}$ to $\Delta T_p = 50^\circ\text{C}$. After the onset of convection, a pattern with 3 central cells and 9 peripheral cells are observed (a), after that, a coalescence is observed and only two cells remain in the center part (b), but there occurs a coalescence of the two cells to form one cell (c). As ΔT_p is increased, the size of peripheral cells increases inducing the disappearance of the central cell (d) and number of cells decreases to 3 cells for $\Delta T_p = 45^\circ\text{C}$, every one of them contains a pair of cells which coalesce and split as function of time (h).