Observations from the Correlation of High-frequencies and Auroral Roar Mission 2 (CHARM-2), launched in 2010 from Poker Flat Alaska, show clear evidence of phase bunching of electrons by Langmuir waves. The measurements were made by a dedicated wave-particle correlator with good phase resolution during a period when the Langmuir waves were very monochromatic and had large amplitudes. The correlated electrons are observed at energies well below the inverted-V peak energy. These electrons are found to be bunched at phase angles with respect to the wave field that indicate both resistive and reactive components of the perturbed distribution function. The resistive component is associated with energy exchange with the waves, while the reactive component is indicative of electron trapping. From the phase-bunched electron energy, we determine the wavelength of the Langmuir waves and also estimate the group velocity of the waves. During a period when time-dispersed electrons are observed below the inverted-V peak, the phase-bunching of the electrons is also observed to be time-dispersed. This interpreted as arising from a positive region of slope in the reduced distribution function created by the dispersed electrons as they decrease in energy over time. We also discuss the observations in terms of wave-packet length and implications for the observed temporal behaviour.