

# Tuesday Warm-Up (INTD262)

Dr. Jordan Hanson - Whittier College Dept. of Physics and Astronomy

October 8, 2024

## 1 Article on Venus Transit - X. López Medellín, C. G. Román-Zúñiga, I. Engstrand, M. Alvarez Pérez, M. Moreno Corral

1. (a) Why did Venus cross the Sun in 1631, 1639, but then not again until 121.5 years later? (b) Why did Chappe d'Auteroche select the Northern part of Nueva España for astronomical observations in 1769?
2. When Joaquín Velázquez de León and José de Gálvez arrived in Baja California, they remained there for three years. (a) What types of measurements did they make? (b) How did this improve local knowledge of Nueva España? (c) Velázquez de León communicated with Chappe d'Auteroche that he would help with the Venus transit measurements, and d'Auteroche suggested that Velázquez de León remain in Real de Santa Ana, while d'Auteroche would work in San José del Cabo. What happened as a result?
3. In 2012, expedition members attempted to find the observation point of Velázquez de León, to repeat the measurements. According to documents, it was near the formal warehouse of Real de Santa Ana and the surrounding mining camps. Who explained to the expedition members that the main building at El Rancho Dátil, an old adobe house, was in fact the ancient warehouse?
4. The authors write that they believe they stood where Velázquez de León made the original measurement, and observed Venus cross the Sun within a minute of the predicted start time. However, their location was a few hundred meters away from the predicted location in manuscripts from the 1700s. Why?

## 2 M. P. Ramos-Lara: Contribuciones de astrónomos mexicanos al estudio de auroras boreales de baja latitud entre 1789 y 1791

1. What is one interesting fact that you derived from the paper on Mexican astrophysics of the aurora borealis?