Conference: First Stars IV
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Title: "Properties of Massive Stars in Primitive Galaxies"

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Abstract:

According to R. Dave, the phases of galaxy formation are distinguished by their halo mass and governing feedback mechanisim. Galaxies in the birth phase (our 'primitive galaxies') have a low halo mass (M<10^9 Msun); and star formation is affected by photo-ionizing radiation of massive stars. In contrast, galaxies in the growth phase (e.g. Lyman Break galaxies) are more massive (M=10^9-10^12 Msun); star formation is fueled by cold accretion but modulated by strong outflows from massive stars.

I Zw 18 is a local blue, compact dwarf galaxy that meets the requirements for a birth-phase galaxy: halo mass <109 Msun, strong photoionizing radiation, no galactic outflow, and very low metallicity, log(O/H)=7.2. We will describe the properties of massive stars in I Zw 18 based on analysis of ultraviolet spectra obtained with HST.