

2016 TMSP Observer's Challenge

Welcome to the 2015 Observer's Challenge. This year's theme is “**Near, Far, and Faint Fuzzies in a Faint Fuzzy.**” The idea is to take you on a journey of stars in our solar system's neighborhood, featuring several stars with planets, then out to the far reaches of the observable universe to galaxy clusters that trace out the huge filamentary structure of the cosmos across the sky. The third part brings us back to our galaxy's neighbor M33, where we explore the structure of that galaxy. Finally, in the early morning sky we take you to a star recently named as a possible sibling to our own Sun.

As always, the goal of our challenge is to not be a mere list of objects to be checked off, but instead to get the observer thinking about our place in the cosmos. We want you to be able to step back from the scope and look up at the sky tracing the location of the objects on the list to build up a 3D view in your mind as you look around. Note that scattered around you, are local stars, many with planets which begs the question: “Are we alone?” Then trace the path across the sky of the galaxy clusters on the list and note that you are seeing part of the foamy structure of the universe 100s of millions of light years long, and that it's only one small part of a larger structure. In M33 we push our skills and equipment to the limit, viewing the galaxy and imagining someone on a planet in that galaxy, peering back at the Milky Way. One very difficult object is one of the few stars in other galaxies visible in larger amateur instruments. Finally, a single star, with similar chemical make-up as our Sun, traveling in an orbit around our galaxy that, if traced backward in time, may place it in a cluster of young stars of which the Sun may have been member long before life existed on Earth.