

# June 2014 vol. 127, NO. 6



#### On the cover:

The Hubble Space Telescope goes ultra-deep to reveal galaxies in the early universe.

PHOTO: NASA / ESA / S. BECKWITH (STSCI) / HUDF TEAM

#### **FEATURES**

## 18 Staring Back to Cosmic Dawn



**COVER** Hubble's single largest observing program is detecting the earliest galaxies, finding the most distant supernovae, and revealing the fireworks-like peak of star formation at cosmic high noon. By Sandra M. Faber, Henry C. Ferguson, David C. Koo, Joel R. Primack & Trudy E. Bell

## **26 From Space to School**

An international collaboration puts asteroid hunting in the hands of students. By Lynne F. Zielinski & J. Patrick Miller

## 32 The H-R Diagram's **100th Anniversary**

This year we celebrate the centennial of one of astronomy's cornerstone achievements. By Jay M. Pasachoff

#### 38 A Unique Amateur Planetarium

Ten years of dogged work brought forth this amateur astronomer's dream. By Ron Legro & Avi Lank

#### 60 **M5 Surprise**

The great globular cluster sports two stunningly bright variable stars. By Howard Banich

#### **66 Wired Astronomy**

Initially a novelty item for amateur astronomers, computers are now almost as important as telescopes. By Rod Mollise

## 72 Split-Star Processing with Images Plus

Reveal more nebulosity in dense star fields with this clever technique. By Blair MacDonald

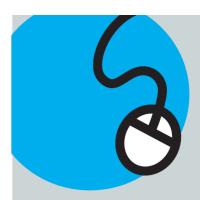
4 June 2014 SKY & TELESCOPE

#### **OBSERVING IUNE**

- In This Section
- June's Sky at a Glance
- **Binocular Highlight** By Gary Seronik
- **Planetary Almanac**
- Northern Hemisphere's Sky By Fred Schaaf
- 48 Sun, Moon & Planets By Fred Schaaf
- 50 Celestial Calendar By Alan MacRobert
- 54 Exploring the Moon By Charles A. Wood
- 56 Deep-Sky Wonders By Sue French

## ALSO IN THIS ISSUE

- 6 Spectrum By Robert Naeye
- 8 Letters
- 9 75, 50 & 25 Years Ago By Roger W. Sinnott
- 10 News Notes
- **New Product Showcase**
- Gallery
- **86 Focal Point** By Gary B. Andreassen



## There's more to find online @ SkyandTelescope.com

## **ASTROPHOTO GALLERY**

Enjoy readers' best images and upload your own. SkyandTelescope.com/gallery

#### **TIPS FOR BEGINNERS**

New to astronomy? Here's everything you need to jump into the fun.

SkyandTelescope.com/letsgo

#### **MONTHLY SKY PODCAST**

Listen as we guide you through this month's celestial sights. SkyandTelescope.com/podcasts

#### **FIND PRODUCTS & SERVICES**

Our easy-to-use directory will help you find what you need. SkyandTelescope.com/directory





## Follow us on **Facebook & Twitter**

SKY & TELESCOPE (ISSN 0037-6604) is published monthly by Sky & Telescope Media, LLC, 90 Sherman St., Cambridge, MA 02140-3264, USA. Phone: 800-253-0245 (customer service/subscriptions), 888-253-0230 (product orders), 617-864-7360 (all other calls). Fax: 617-864-6117. Website: SkyandTelescope.com. © 2014 Sky & Telescope Media, LLC. All rights reserved. Periodicals postage paid at Boston, Massachusetts, and at additional mailing offices. Canada Post Publications Mail sales agreement #40029823. Canadian return address: 2744 Edna St., Windsor, ON, Canada N8Y 1V2. Canadian GST Reg. #R128921855. POSTMASTER: Send address changes to Sky & Telescope, PO Box 420235, Palm Coast, FL 32142-0235, Printed in the USA

TOC layout.indd 4 3/26/14 1:19 PM