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SENATE JOINT RESOLUTION NO. 378

Offered January 18, 2011

Commending the National Aeronautics and Space Administration on the celebration of the 30th anniversary of the first flight of the Space Shuttle.

Patron—Herring

WHEREAS, during the past 30 years since NASA first launched Space Shuttle *Columbia* on April 12, 1981, millions of Virginians along with countless others across the United States and around the world have shared the excitement of exploration through the Space Shuttle Program; and

WHEREAS, the Space Shuttle, a marvel of technology and engineering, has made significant contributions to scientific progress and international cooperation through cutting-edge technology development, a multitude of scientific experiments, the ability to launch satellites, servicing the Hubble Space Telescope, and assembly of the International Space Station; and

WHEREAS, the Space Shuttle Program helped to create a thriving space industry with enormous economic impact to the nation; inspired an entire generation of astronauts, entrepreneurs, scientists, and engineers; and generated more than 100 technology spinoffs enhancing the quality of life for all Americans; and

WHEREAS, Virginia is home to two outstanding research facilities, NASA Langley Research Center in Hampton and NASA Wallops Flight Facility on the Eastern Shore, which have made significant contributions to the Space Shuttle Program from its early development in the 1960s and 1970s to NASA's Return to Flight efforts following the *Challenger* and *Columbia* tragedies and finally to operations for flying Space Shuttles safely until retirement; and

WHEREAS, NASA Langley Research Center contributed to the technology base and preliminary designs for the Space Shuttle, including recommending the modified delta wing, aerodynamic design data from over 60,000 hours of wind tunnel tests, structures and materials tests, certification of the thermal protection system, analysis of orbiter flight control and guidance, landing systems and runway tests, redesign of solid rocket booster components, launch abort capabilities, and ascent aerodynamic wing loads; and

WHEREAS, NASA Langley Research Center's facilities and capabilities in structures and materials, aerodynamics and aerothermodynamics, and systems analysis and engineering made it a key player in the mission to return the Space Shuttle to flight as quickly and as safely as possible after the *Columbia* and *Challenger* accidents; and

WHEREAS, NASA Langley Research Center continues to support the Space Shuttle Program by providing real-time technical support to evaluate heating effects during reentry and developing a new technique to obtain high-resolution temperature measurements of the Space Shuttle during reentry to help validate computer models for designing safer future vehicles; and

WHEREAS, NASA Wallops Flight Facility on the Eastern Shore supports the Space Shuttle Program by providing critical tracking and communication activities during launch and in orbit that allow for performance assessment and abort determination; and

WHEREAS, NASA Wallops Flight Facility serves as an emergency landing site for Space Shuttles, supports docking process with the International Space Station, and is one of two launch sites selected to reservice the International Space Station; and

WHEREAS, the Virginia legislature has adopted specific policies and budget measures over the past years to enable the FAA-licensed commercial spaceport on Wallops Island to flourish and attract the commercial space launch firm Orbital Sciences Corporation to loft payloads into orbit and to the moon, bringing billions of dollars of new space-related investment and hundreds of new aerospace jobs to the Commonwealth; and

WHEREAS, the global commercial space market is now a \$250 billion per year industry, and the Commonwealth of Virginia, with two NASA facilities, the Mid-Atlantic Regional Spaceport, and extensive involvement from the academic community and commercial and private sectors, is well-positioned to be a leader in the space industry to develop future space vehicles and provide commercial space launch services that will create new jobs and inspire students to pursue careers in science, technology, engineering, and mathematics; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, That the General Assembly commend NASA for 30 years of scientific and technological excellence resulting from flying the Space Shuttle and for continuing to power us into the 21st century, which will preserve United States leadership in space exploration; and, be it

RESOLVED FURTHER, That the Clerk of the Senate prepare a copy of this resolution for

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59 presentation to NASA in recognition of the 30th anniversary of the first flight of the Space Shuttle and
60 as an expression of the General Assembly's gratitude and hope for its continued success in the
61 exploration and development of space, aeronautics, and earth sciences.