COSMIC PITCH

National Aeronautics and Space Administration

NASA

COSMIC EXAMPLE

Hercules A is an active galaxy where a supermassive black hole powers enormous jets of particles, heating vast clouds of X-ray-emitting gas and moving at **hundreds of millions of kilometers per hour.**

NASA/CHANDRA, HUBBLE; NSF/NRAO

Speed

DEFINITION: distance traveled over a certain period of time

UNITS: miles per hour (mph), kilometers per hour (kph)

A ball struck by some of the world's best players can reach speeds up to those of a car driving down a highway! In space, things move far faster — **jets from black holes** can shoot particles at **nearly the speed of light**, and entire galaxies are speeding away as the Universe expands. Whether chasing a goal or traversing galaxies, speed is the heartbeat of motion in both sport and space.



SOCCER EXAMPLE

Elite soccer players have had shots on goal moving up to **130 mph (210 kph).**

nasa.gov
chandra.si.edu/cosmicpitch