

SAD uses s , the distance along a reference line as the independent variable. The reference line is either a straight line or an arc of a circle. The arc is chosen for elements with nonzero **ANGLE** such as **BEND** and **MULT**, otherwise the reference line is a straight line. The reference line is an abstract object to describe the motion of particles, and not necessarily to be an orbit of a particle. Even for instance in a solenoid, the reference line is straight. An arc is always bent locally horizontally. Such reference lines can be discontinuous at some locations such as an end of tilted **SOL** or **COORD**. SAD automatically calculates the values of variables at such locations.