SLAC COLLIDER NOTE 293*

TITLE: Alignment Labeling Scheme for SLC AG Magnets, Horizontal Control Points, and Tunnel Benchmarks

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What follows is an explanation of a system purposed by the survey and alignment group to name magnets and control points in the north and south arcs of the SLC.

I Magnets

AG magnets in regular achromats will have six place-labels as can be seen from the following example.

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DE85 009844

Name Possibilities

Arcs: North (N)

South (S)

Achromat numbers: 01 → 23 **Achromats** 1 → 23
8A, 8B Odd achromats

Magnet numbers: 01 → 20 Regular arc magnets

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For alignment purposes several points for each magnet must be named. These points are explained in the following figure.

Key

PV	Pseudo-vertex point	(Preceding the magnet)
FM	Front magnetic point	(Position computed by TRANSPORT)
FF	Front fiducial mark	(Position computed by alignment)
RF	Rear fiducial mark	(Position computed by alignment)
RM	Rear magnetic point	(Position computed by TRANSPORT)

A set of these points will be associated with every magnet, therefore their name is formed by adding a two letter abbreviation for the point to the magnet name. For example; XN0101PV means the pseudo-vertex preceding the first magnet of the first achromat in the north arc.

A similar system to name magnets and their associated control points will be used in the final focus, reverse bends and instrument section, once more information is received on positioning requirements in these sections.

II Benchmarks

Benchmarks in the form of monel rivets will be set at 20 m intervals in both arcs. These marks will be used to control the *Y* coordinate in the placement of magnets. They will be named in the following manner:

Name Possibilities

Arcs: North (N)

South (S)

Achromat Numbers: Same as that for the magnets with the addition of:

RB - Reverse bend

IS - Instrument section

.. - Final Focus

SLAC Stationing: Station of rivit to the nearest 1 meter.

This will never be longer than four digits.

III Tunnel Traverse Points

Tunnel traverse points in the form of stainless steel plugs with optical tooling targets will be set, four per achromat. These points will be used to control the *Z* and *X* coordinates when positioning pedestals and magnets. They will be named in the following manner:

Name Possibilities

Arcs: North (N)
South (S)

Achromat numbers: Same as for the benchmarks

Control point numbers: 10, 20, 30, 40 regular control points with
the possibility to go up to 99 for special
sections and add-ons.

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