# H2 SUS ITMY M0

EUL2OS	EUL2OSEM Matrix								
	L	Т	v	R	Р	Y	COILOUTF Gain		
F1					-		+		
F2	-				+	+	+		
F3	-				+	-	- X		
LF			-	-			-		
RT			-	+			+		
SD		-					-		

Conclusion: F2 and F3 Magnets are flipped on installed magnets (though compensated for with COILOUTF gains)

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# H2 SUS ITMY R0

| EUL2OS |   | COILOUTF |   |   |   |   |      |
|--------|---|----------|---|---|---|---|------|
|        | L | Т        | v | R | Р | Y | Gain |
| F1     |   |          |   |   | + |   | +    |
| F2     | + |          |   |   | - | - | +    |
| F3     | + |          |   |   | - | + | -    |
| LF     |   |          | - | - |   |   | +    |
| RT     |   |          | - | + |   |   | -    |
| SD     |   | +        |   |   |   |   | -    |
|        |   |          | / |   |   |   |      |

Conclusion: All clear!

# X1 SUS QUAD03 M0



Conclusion: All clear! (accounting for X1 Test Stand Elec. Gain of -1, properly compensated in the COILOUTF gain)

### X1 SUS QUAD03 R0

|    | L | Т | v | R | Р | Y | Gain |  |  |
|----|---|---|---|---|---|---|------|--|--|
| F1 |   |   |   |   | - |   |      |  |  |

#### Ideal (as per T1200015)

|    |   |   |   |   |   |   | COILOUTF |
|----|---|---|---|---|---|---|----------|
|    | L | Т | v | R | Р | Y | Gain     |
| F1 |   |   |   |   | - |   | +        |
| F2 | - |   |   |   | + | + | -        |
| F3 | _ |   |   |   | + | _ | +        |
| LF |   |   | - | - |   |   | -        |
| RT |   |   | - | + |   |   | +        |
| SD |   | _ |   |   |   |   | _        |

|    |   |   |   |   |   |   | COILOUTF |  |
|----|---|---|---|---|---|---|----------|--|
|    | L | т | v | R | Р | Y | Gain     |  |
| F1 |   |   |   |   | + |   | +        |  |
| F2 | + |   |   |   | - | - | +        |  |
| F3 | + |   |   |   | - | + | -        |  |
| LF |   |   | - | - |   |   | +        |  |
| RT |   |   | - | + |   |   | -        |  |
| SD |   | + |   |   |   |   | _        |  |

|   |             |         |           |                                                 |   | COILOUTF |  |
|---|-------------|---------|-----------|-------------------------------------------------|---|----------|--|
| L | Т           | v       | R         | Р                                               | Y | Gain     |  |
|   |             |         |           | -                                               |   | +        |  |
| _ |             |         |           | +                                               | + | -        |  |
| _ |             |         |           | +                                               | - | +        |  |
|   |             | _       | _         |                                                 |   | -        |  |
|   |             | _       | +         |                                                 |   | +        |  |
|   | _           |         |           |                                                 |   | -        |  |
|   | L<br>-<br>- | L T<br> | L T V<br> | L T V R   - - -   - - -   - - -   - - +   - - - | + | + +      |  |

|   |    |   |   |   |   |   |   | COILOUTF |
|---|----|---|---|---|---|---|---|----------|
| ſ |    | L | Т | v | R | P | Y | Gain     |
| ſ | F1 |   |   |   |   | + |   | +        |

| SD |   | + |   |   |   |   | + |
|----|---|---|---|---|---|---|---|
| RT |   |   | - | + |   |   | + |
| LF |   |   | - | I |   |   | - |
| F3 | + |   |   |   | - | + | + |
| F2 | + |   |   |   | - | - | - |
|    |   |   |   |   | • |   | _ |

Conclusion: All clear! (accounting for X1 Test Stand Elec. Gain of -1, properly compensated in the COILOUTF gain)

### H2 SUS FMY M1

| H2 50 |   |   |   |   |   |   |                  |  |  |  |  |
|-------|---|---|---|---|---|---|------------------|--|--|--|--|
|       | L | Т | v | R | Р | Y | COILOUTF<br>Gain |  |  |  |  |
| F1    |   |   |   |   | + |   | +                |  |  |  |  |
| F2    | + |   |   |   | - | - | +                |  |  |  |  |
| F3    | + |   |   |   | _ | + | -                |  |  |  |  |
| LF    |   |   | - | - |   |   | +                |  |  |  |  |
| RT    |   |   | - | + |   |   | -                |  |  |  |  |
| SD    |   | - |   |   |   |   | -                |  |  |  |  |



Conclusions: All clear! (Transformation Matrices now correct AND overall minus sign from faulty **OSEMINF** filter fixed.)

### X2 SUS BSFM06 M1

|    | L | т | v | R | Р | Y | COILOUTF<br>Gain |
|----|---|---|---|---|---|---|------------------|
| F1 |   |   |   |   | + |   | +                |
| F2 | + |   |   |   | - | - | +                |
| F3 | + |   |   |   | - | + | -                |
| LF |   |   | - | - |   |   | +                |
| RT |   |   | - | + |   |   | -                |
| SD |   | _ |   |   |   |   | -                |
|    |   |   |   |   |   |   |                  |

Conclusions: All clear! (Transformation Matrices now correct AND F2 and F3 magnets have been confirmed wrong, and have been righted)

## X2 SUS PR3 M1 (an HXTS27)

| EUL2OSEM Matrix |   |   |   |   |   |   |    |  |  |  |  |
|-----------------|---|---|---|---|---|---|----|--|--|--|--|
|                 | L | Т | v | R | P | Y | CO |  |  |  |  |
| <b>T1</b>       |   |   | - | - |   |   |    |  |  |  |  |
| т2              |   |   | - | + | + |   |    |  |  |  |  |
| Т3              |   |   | - | + | - |   |    |  |  |  |  |

| - | COILOUTF |  |
|---|----------|--|
|   | Gain     |  |
|   | -        |  |
|   | -        |  |
|   | +        |  |

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| F2 | + |   |   |   | I | - | + |
|----|---|---|---|---|---|---|---|
| F3 | + |   |   |   | I | + | - |
| LF |   |   | I | - |   |   | + |
| RT |   |   | I | + |   |   | - |
| SD |   | + |   |   |   |   | _ |

|    | L | Т | v | R | P | Y | COILOUTF<br>Gain |
|----|---|---|---|---|---|---|------------------|
| F1 |   |   |   |   | + |   | +                |
| F2 | + |   |   |   | - | - | +                |
| F3 | + |   |   |   | - | + | _                |
| LF |   |   | - | - |   |   | +                |
| RT |   |   | - | + |   |   | _                |
| SD |   | _ |   |   |   |   | -                |

|    | L | т | v | R | Р | Y | COILOUTF<br>Gain |
|----|---|---|---|---|---|---|------------------|
| F1 |   |   |   |   | + |   | +                |
| F2 | + |   |   |   | - | - | +                |
| F3 | + |   |   |   | - | + | -                |
| LF |   |   | - | - |   |   | +                |
| RT |   |   | _ | + |   |   | _                |
| SD |   | - |   |   |   |   | -                |

|    | i | r |   |   |   |   | COILOUTF |
|----|---|---|---|---|---|---|----------|
|    | L | т | v | R | Р | Y | Gain     |
| т1 |   |   | - | - |   |   | -        |
| т2 |   |   | - | + | + |   | -        |
| т3 |   |   | - | + | - |   | +        |
|    |   |   |   |   |   |   |          |

| LF | + |   |  | - |
|----|---|---|--|---|
| RT | + |   |  | + |
| SD |   | - |  |   |



| LF | + |   |  | - | + |
|----|---|---|--|---|---|
| RT | + |   |  | + | - |
| SD |   | - |  |   | - |



Conclusion: Clear except for Trans Doesn't damp (overall minus sign from faulty **OSEMINF** filter fixed)