Are cov, cs and var_factor functions or variables? If variables, it would be a lot clearer to subscript them with [] instead of (). (also, why start those for loops at 1 and have -1 scattered throughout the code? it would be clearer to loop from 0 to num-1 or m-1 respectively and just index with i, j and k)

Assuming they're variables:

```
; calculate the matrix sum
sum = matrix_multiply(matrix_multiply(cov, cs), cs, /atranspose)
; pick out the diagonals, which are the ones with the same i in both cs multiplications
diags = (num+1) * lindgen(num)
; multiply by var_factor
var_alpha = sum[diags] * var_factor
```

-Jeremy.