

```

/*****
*
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*   02111-1307, USA.
*
*****/

/*****
* We now include this header file if it was not included before.
*****/
#ifndef align_h_included
#define align_h_included

/* These are to force alignment of array data on 64-byte boundaries. We cast pointer
to accommodate architectures which use 64-bit address arithmetic. */

#define ALLOC_INT(_n)      (memset((int *)malloc((_n)*sizeof(int)
#define ALIGN_INT(_p)      ( (int *)(((long)(_p) | 63)+1))

#define ALLOC_DOUBLE(_n)  (memset((double *)malloc((_n)*sizeof(double)
#define ALIGN_DOUBLE(_p)  ( (double *)(((long)(_p) | 63)+1))

#define ALLOC_COMPLEX(_n) (memset((struct complex*)malloc((_n)*sizeof(struct comp
#define ALIGN_COMPLEX(_p) ( (struct complex*)(((long)(_p) | 63)+1))

/*
On the x86 family, alignment of the stack is very important
This uses the GNU gcc __builtin_alloca function to align doubles properly
This is taken from GNU/FFTW package
*/
#if(COMPILER_TYPE_GCC)
#   if (defined(__i386))
#       define HACK_ALIGN_STACK_EVEN() { \
           if( (((long) (__builtin_alloca(0))) & 0x7)) __builtin_alloca(4);\
       }

#       define HACK_ALIGN_STACK_ODD() { \
           if(!(((long) (__builtin_alloca(0))) & 0x7)) __builtin_alloca(4);\
       }
#   else
#       define HACK_ALIGN_STACK_EVEN() /* */

```

```
#         define HACK_ALIGN_STACK_ODD() /* */
#     endif
#else
#     define HACK_ALIGN_STACK_EVEN() /* */
#     define HACK_ALIGN_STACK_ODD() /* */
#endif

#endif /* align_h_included */
```